AMIGA 3000 TOWER: Should you wait?

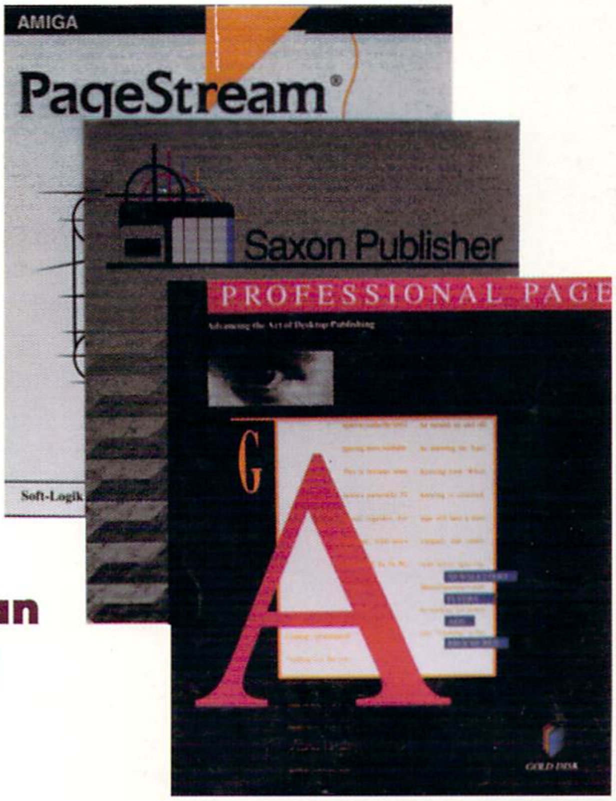
Amazing COMPUTING™ For The Commodore AMIGA®

Your Original AMIGA® Monthly Resource

Volume 6 No. 5 May 1991
US $3.95 Canada $4.95

Spring Extravaganza

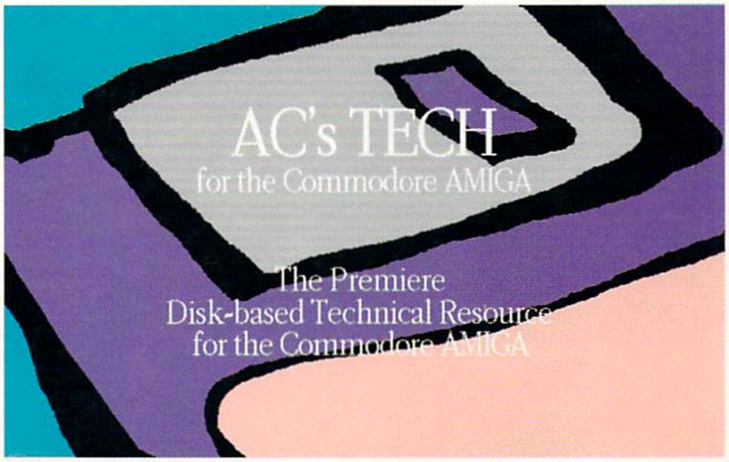
The Big 3 In DTP



Service Bureau Survival Guide!

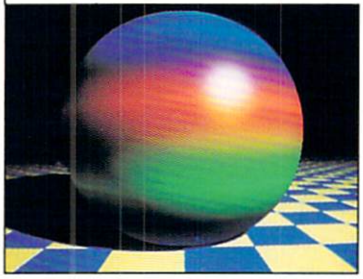
AMIGA Takes Manhattan 2 Shows in 3 Weeks!

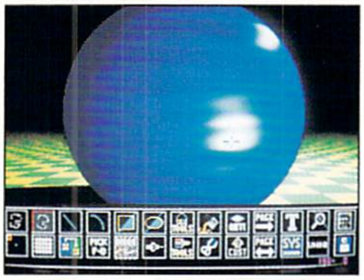
SCALA- Making A Good Impression

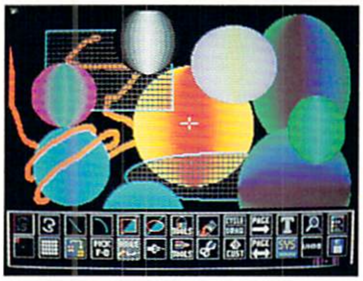


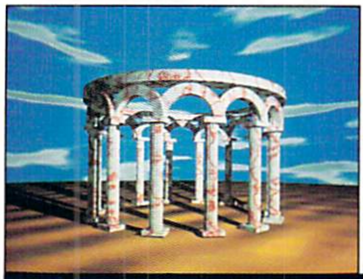
H A M - E

High quality RGB output for your Amiga









These images are **completely unretouched** photos taken from a stock 1084s RGB monitor using the basic HAM-E unit. They are pure RGB, *not* smeary composite.

The new HAM-E Plus is an even more potent yet virtually transparent, anti-alias engine which offers near photographic quality images on standard RGB monitors.

No other graphics expansion device offers so much performance and costs so little! And all the software to run it is **free.** Even upgrades!

There's not enough room to cover all the features of this system, so here's just a few.

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- S-VHS encoder compatible
- PAL & NTSC compatible
- Uses *only* RGB port
- FCC Class B. UL Listed
- Works w/std Amiga monitors
- Does *not* use Amiga power

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- Area, edge, outline fill/overfill
- Dithered 24 bit fill mixing
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- "C" source code available free
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- 256 color stencils
- Matte/color/anti-alias/cycle draw
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- Auto enhance std IFF palettes
- Writes IFF24, GIF,™ HAM-E

IMAGE COMPATIBILITY

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- RGB8 and RGBN
- Targa™
- GIF™
- Dynamic HiRes™
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- Images may be scaled and converted to 24 bit IFF files

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(All software works with either unit)

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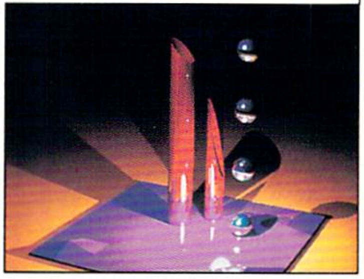

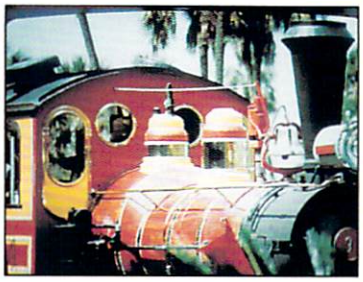

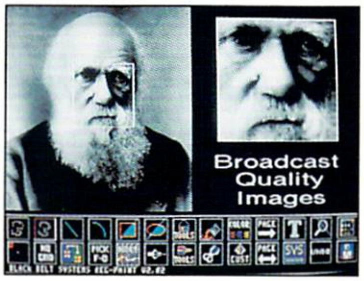

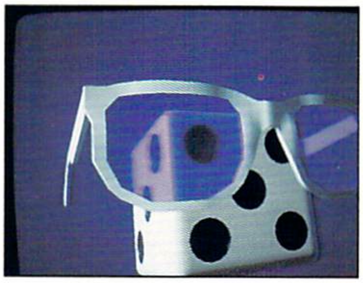

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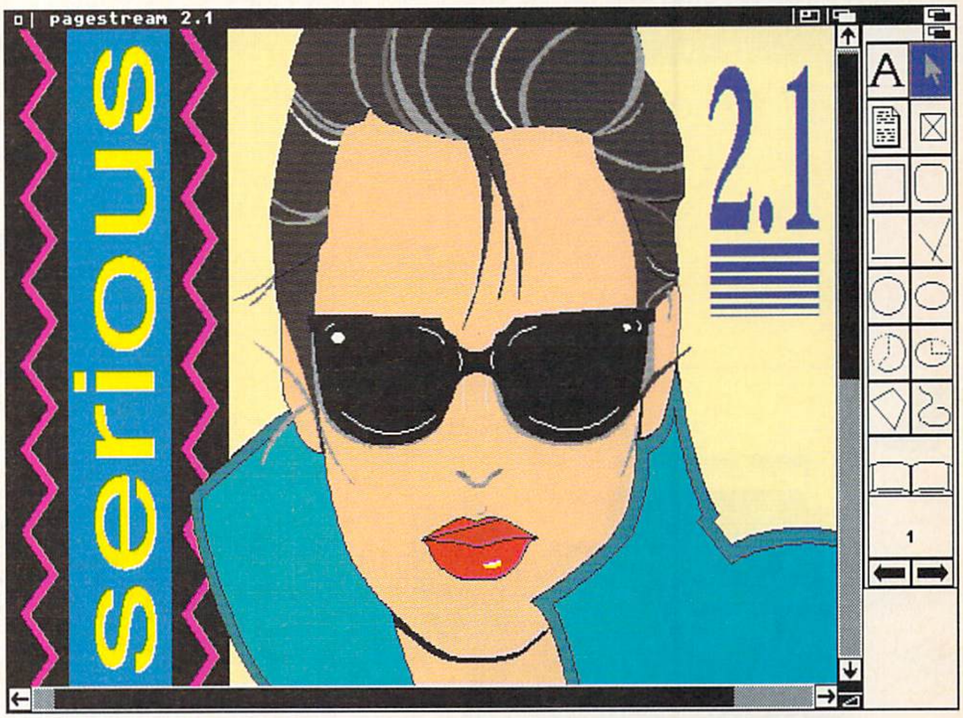
— Deron Kazmaier
Soft-Logik President



Actual PageStream 2.1 screenshot

ART IMPORT	ProPage	PageStream
IFF (24 bit)	Y	Y
TIFF	N	Y
GIF	N	Y
EPS	Y	Y
EPS – view TIFF preview	N	Y
ProDraw	Y	Y – *Editable!*
Aegis Draw	Y	Y – *Editable!*
GEM	N	Y – *Editable!*
IMG	N	Y
MacPaint	N	Y
TEXT IMPORT		
WordPerfect	Y	Y
Excellence!	N	Y
Scribble	Y	N
ProWrite	N	Y
ASCII text	Y	Y
COLOR		
CMYK	Y	Y
RGB	Y	Y
HLS	N	Y
HSV	N	Y
Pantone Colors	Y	N
UCR/GCR	Variable	**Fixed**

FONTS	ProPage	PageStream
PostScript Type 1	N	Y
PostScript Type 3	N	Y
Compugraphic	Y	Y
Outlines on Screen	Y	Y
# Outline Fonts Included	2	18
Typographic Precision	1 point	0.01 points
Max Font Size (any type)	720 points	183,000 points
INTERFACE		
Framed Text	Y	Y
"No Frames" Text	N	Y
# of Open Documents	1	**Unlimited**
Linked Text Processor	Y	**N**
Font Caching	Manual	**Automatic**
View Magnifications	7 fixed	**User Scalable**
Zoom View	N	**15 – 1500%**
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Master Pages	N	Y
Measurement Systems	3	9
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And the Winner Is...		
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Circle 185 on Reader Service card.

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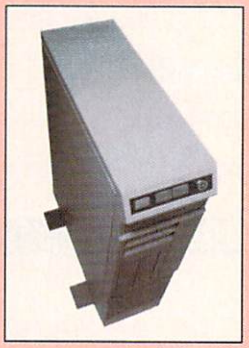
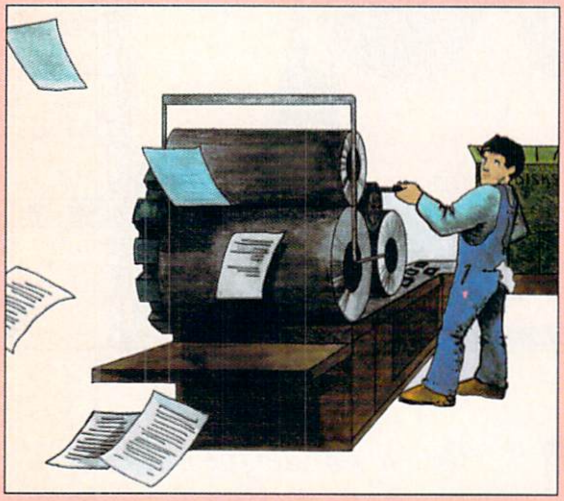


Done to a "T": the latest in 3000-series Amigas.



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Presentations with punch via Digital Vision's Scala.

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Buffer file input and output to improve disk accessing speed.

EDITORIAL CONTENT

Two Apologies

The Amiga 3000 Tower article in this issue contains all the features and information that is available on this new machine to date. We must admit that in doing this story, we have been "scooped" by our competitor, *AmigaWorld*. How could we let this happen? Why were we remiss? After all, hasn't *Amazing Computing* always taken great pride in reporting late-breaking Amiga news before anyone else?

It is true, AC *has* long done an outstanding job of reporting the latest news and product developments to our readers as quickly as they occur. We brought you the story on the announced features of NewTek's Video Toaster in last year's May and June issues. We broke the exciting story of the Amiga's role in the successful campaign waged by the city of Atlanta and Georgia Tech University to win the honor of hosting the 1996 Summer Olympic Games. We also were first to give you special details on new PC emulators for your Amiga 500 last summer, as well as NewTek's announcement of a stand-alone Video Toaster system in this issue ("And Furthermore ...", page 96). So how did we let the A3000T pass us by?

At press time we were still piecing the story together, but apparently this is how it went: Commodore Business Machines International displayed a new Amiga 3000 Tower system at a computer show in Europe. While it is still unclear exactly how the machine was announced, the following points were available at this writing. One, the machine is real and is currently going through tests and engineering evaluations. Two, no announced shipment date nor price has been given. While the first point makes it obvious that the Amiga 3000T is certainly not vaporware, the second suggests that a little restraint and decorum should have been in order.

When Osborne was king

Some of you may remember the first transportable computer created by Adam Osborne back in the early 1980s. The Osborne 1 was a CPM-based machine with screen and disk drives mounted into a case; the cover opened to become the keyboard. The Osborne was a phenomenal best seller that quickly demonstrated the desire of everyone to take their computing power with them. While the machine was heavy (28 pounds), it was convenient.

Osborne sales were extraordinary. Dealers could not keep them in stock. Osborne's business went through the roof. They were setting a new standard for computers with a clear positioning for the future. Then it was rumored that a new machine was under development from Osborne and that the new device would be available "real soon now."

So, everyone decided to wait for the new version. After all, why buy a machine today if the next generation is going to be more powerful *and* less expensive? Dealer sales stopped immediately. The large production capacity that Osborne had geared themselves toward now filled inventory shelves with unwanted machines. Production workers were dismissed. Cash flow at Osborne dried up overnight. Dealers of Osborne equipment either concentrated on other product lines or went out of business. The final result was that Osborne Computer ceased to exist, and the world had to wait for a new leader in portable computers to emerge, until Compaq finally burst onto the scene.

Smoke and mirrors

We have a similar problem here. One magazine, feeling the pressure of an aggressive competitor, obtained an engineering prototype from Commodore after learning that the machine had been shown in Germany. Editors then wrote a quick piece on the features of the machine and announced it as an "exclusive".

There was no consideration as to the fact that an official launch of the machine had not been set. AW editors had not bothered to consider the consequences of announcing a product while it was still in development. They did not concern themselves with what a premature announcement might do to Commodore dealers across the country who not only could not get an Amiga 3000 Tower, but who were talking with Commodore product representatives who had never seen one.

This type of activity is not journalism, it is sensationalism. It is done not to better the Amiga marketplace, but to boost that publications' sagging position in the market. While individually there are people at AW whom I do respect and appreciate, as an organization AW has proven that it will do anything it feels it must to maintain its goals—whatever the cost to others.

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Amazing Computing AMIGA

Amazing Computing For The Commodore AMIGA™

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New Age Electronics	Largo
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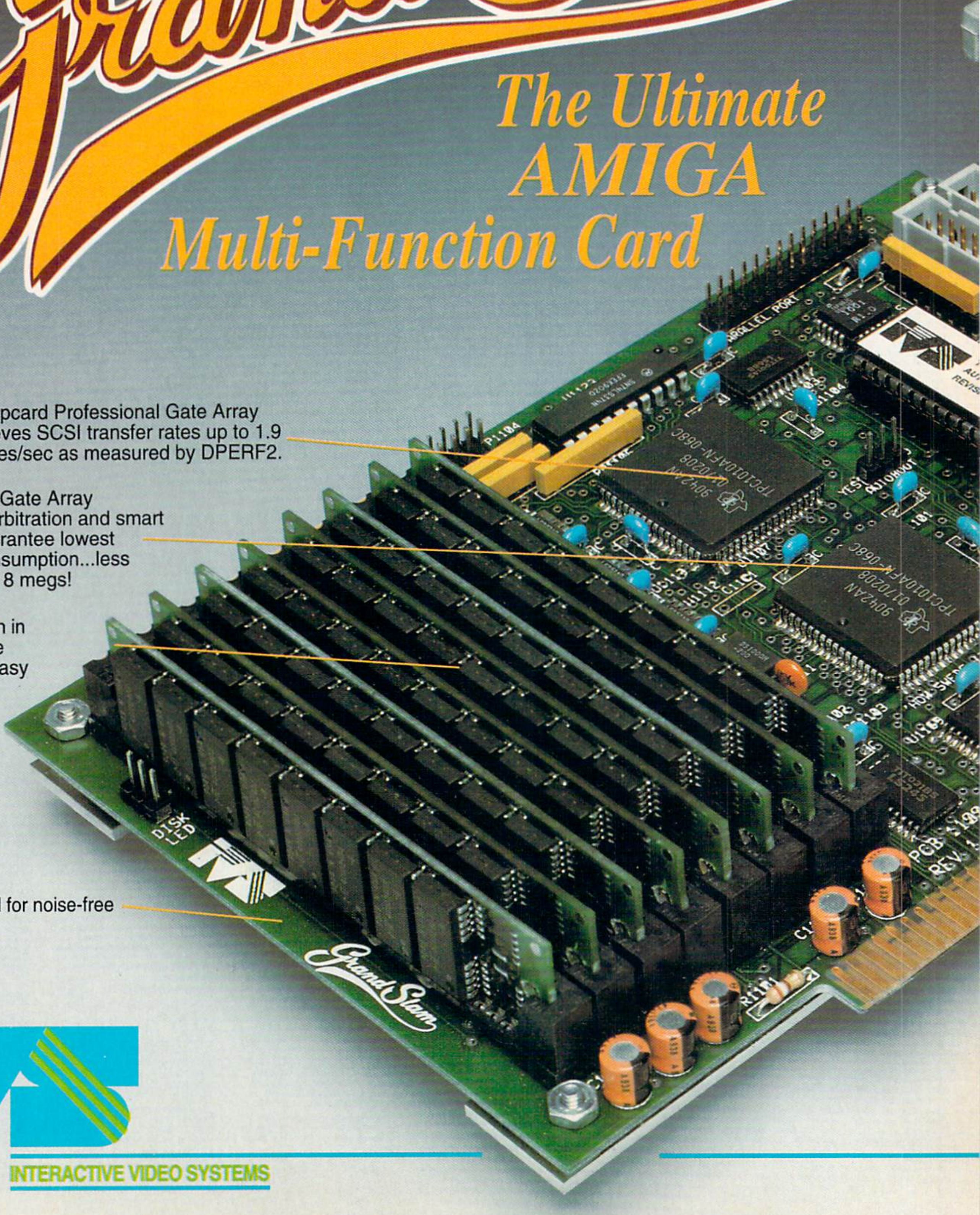

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Circle 140 on Reader Service Card

*(**Editorial**, continued from p. 4)*

This attitude can best be seen in AW officials going forward with their plans to promote a second trade show in New York—*AmigaWorld* EXPO—knowing that Commodore had already made a sizeable commitment to The Hunter Group's World Of Amiga. The division and confusion, as well as outright harm that this has caused the Amiga industry may be enormous.

The present AW management "style" is further underlined by a statement made to me by publisher Stephen Robbins on the floor of the New York exposition, that Commodore had made them withdraw the name *AmigaWorld* from the official title of that exposition three weeks before the show. This did not stop the show, however, nor did it stop both Lou Wallace and Doug Barney from calling the AMI Shows production *AmigaWorld* EXPO in their respective speeches to attendees. Apparently, Mr. Robbins had not relayed this important word from Commodore to his editors.

In all fairness to Mr. Robbins, he told me this as I requested an explanation from him as to why copies of *Amazing Computing*, *AC's GUIDE*, and *AC's TECH* had been demanded by show management to be removed from sale at an exhibitor's booth on the first evening of the EXPO. Although Mr. Robbins had no answer as to why that had occurred, he did say that he would do what he could to get the situation corrected by talking to show officials. However, show management never instructed the exhibitor to return the magazines to sale for the duration of that show.

Exclusive?

AmigaWorld's Amiga 3000 Tower issue included a reference to their *exclusive* "published on the day of its announcement" story of the existing Amiga 3000. But they have once again misled the public.

Two other magazines had cover stories of the Amiga 3000 that day, *Byte* and (yes, you guessed it) *Amazing Computing*. I cannot answer for *Byte*, but I can tell you that we were requested by Commodore's public relations firm not to mail or ship magazines until after the official announcement. Our issue, which was shipped and mailed the day of the announcement, presented a clear and detailed story on the Amiga 3000.

In the July 1990 issue of AW, they rumored a new machine from CBM called "The Baby". AW editors presented a cursory outline of the new machine based on rumors, and they photographed a standard audio-only CD player by another manufacturer—and *not* Commodore's genuine CDTV interactive graphics player—for the cover of the issue and the article. In fairness, our July issue was three weeks behind theirs; however, several pages of that issue were reserved for the latest news from the Summer Consumer Electronics Show. What was the news? CDTV—and AC told the story with real specifications and photographs of the actual CDTV player.

In May and June, AC was proud to tell you of the work that was being done by NewTek in Topeka, Kansas. We told you of the "home" television studio they had created, and provided a complete list of "to be announced" product features. We could not yet actually review the Toaster because it was still in prototype.

In their October issue, AW published an "exclusive" and extensive preview (with feature list) of the Toaster based on a hand-built prototype board. They promised a review of the finished product when it was released in its final version. Yet, to this date they have neglected to print any further review.

At AC, we waited until we could do a test on the actual product. And we provided this complete coverage in our March 1991 issue with a sidebar covering the newest additions of NewTek's final released software for the Toaster. Until that point, NewTek had been selling the Toaster with Gamma-level software.

What does all this mean? It means that I have not been doing my job. It means that in the nature of checks and balances, I have maintained a hands-off attitude to the manipulations of AW. I have always felt that I should leave our competition out of the pages of this publication, but it appears that this has become a license for AW to do and say whatever they please without fear of contradiction or concern over how their activities will affect the market.

I apologize to all in the Amiga market for trying to stay above this fight. You deserve to be represented on *all* fronts in *all* matters. From here forward, I personally intend to see that this happens in regard to my competitor, and with the same force that I apply to other Amiga vendors.

My first apology concerned the way we have allowed some members of the Amiga market too much authority and latitude *without* a corresponding degree of concern and responsibility. Rest assured that this will no longer be the case.

But my second apology is of a very different nature. While we will do everything we can to bring you the latest and best news concerning any and all advances in Amiga computing, we will also be certain that what we say is the truth.

We have a regular (and quite popular) feature in this magazine titled "Roomers". This is where we discuss topics that are not always official releases (however, every mention in "Roomers" is researched by an AC staff member). We will not place any *rumor* on AC's front cover.

Does this mean you will not see the newest advancements from Commodore in AC? Of course not! Commodore tests hundreds of new designs each year. Those that make it through the various screening processes become saleable products; the others are merely false starts. "Roomers" may discuss the false starts, but only real products will make it to the pages of AC as features or "exclusives". The Amiga 3000 Tower project has been rumored for over a year, and now CBM admits it will be available for an "end of summer" launch.

I believe that Commodore—or any vendor, for that matter—has the right to decide how and when they will release and market a product. Commodore had not planned to release this product or information about it now.

I do not like providing my readers with incomplete information and the A3000T *is* still incomplete. My second apology is not that we did not run the story sooner, but that we *must* run the story now.

But what of the A3000 Tower?

The Amiga 3000 Tower appears to be a fine machine. Its projected announcement time is somewhere toward the end of this summer and its price will be significantly higher than that of an Amiga 3000. Should you wait to buy one?

Although the A3000 Tower is a great looking and expansive machine, it is *not* available today and, in all honesty, we do not know when it *will* become available. I always first consider what I can do today and to what extent my ability to *produce* today—versus waiting for the future—influences any purchasing decision.

Knowing all the current facts about the Amiga 3000 Tower, I nevertheless just purchased another Amiga 3000 (the A3000 that runs at 25 MHz with a 100-megabyte hard drive) last week because we need it *today* to help with the work we are doing in-house with our new imagesetter. By the time the A3000 Tower is available, I will have already paid for this new A3000 through its ability to generate income and increase productivity *immediately*. In short, I am able to justify my investment and I am able to use this latest model of Amiga engineering for months before anything better becomes available.

I don't know how you feel, but it sounds like a solid reason for buying Amigas *now*.

Sincerely,

Don Hicks
Managing Editor

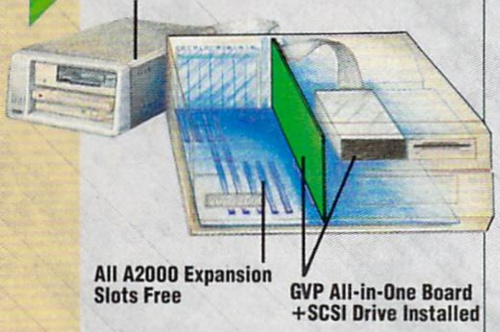
The Ultimate All-in-One Amiga® 2000 Add-on...

68030 POWER+16MB RAM+SCSI CONTROLLER

Replaces up to FOUR "normal" expansion boards!

IMPACT Series II

Now, a 22 or 33 Mhz 68030 accelerator board, up to 16MB of 32-bit wide RAM and a high-performance SCSI hard disk controller in a single A2000® "CPU slot" expansion board!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- ✓ GVP's legendary FAAASTROM SCSI driver supports virtually all SCSI devices currently on the market, including hard disk drives, CD-ROM drives, Magneto-Optical drives, removable media drives and tape drives.
- ✓ Switch to 68000 mode by simply clicking on our new "68000 Mode" Icon, or include our special "mode switching" utility in your startup-sequence and select required mode each time system is rebooted, by holding down mouse buttons.
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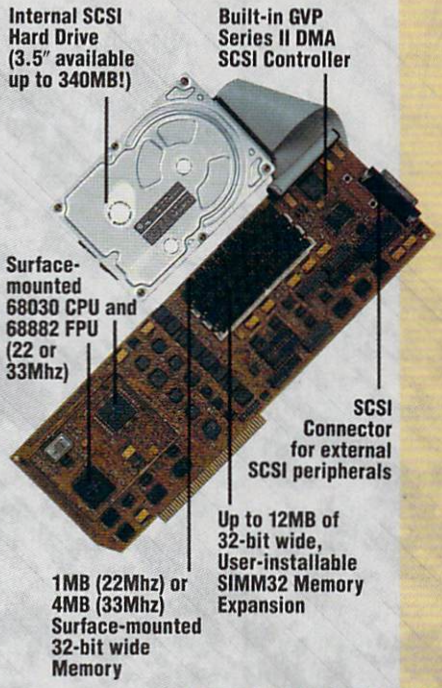
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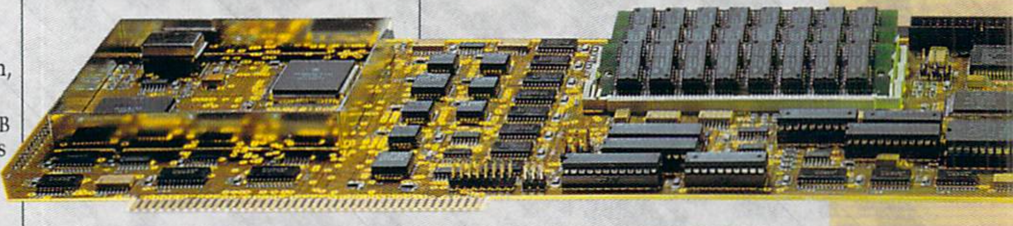

COMPARE:	A2000 +GVP All-in-One	Commodore A2500/30	Commodore A3000®
68030 CPU and 68882 FPU	Y	Y	Y
Maximum CPU clock speed available & shipping TODAY	33Mhz	25Mhz	25Mhz
Maximum 32-bit wide FAST memory on 68030 CPU board	16MB	4MB	16MB
Direct DMA access to more than 8MB of fast memory	Y	N	Y
DMA SCSI controller built-in on 68030 CPU board	Y	N	Y
Number of open Amiga expansion slots with 68030 CPU, SCSI controller and more than 4MB fast memory installed	5	3	4
RAM upgrades through easy-to-install 32-bit wide SIMM memory modules	Y	N	N

GVP

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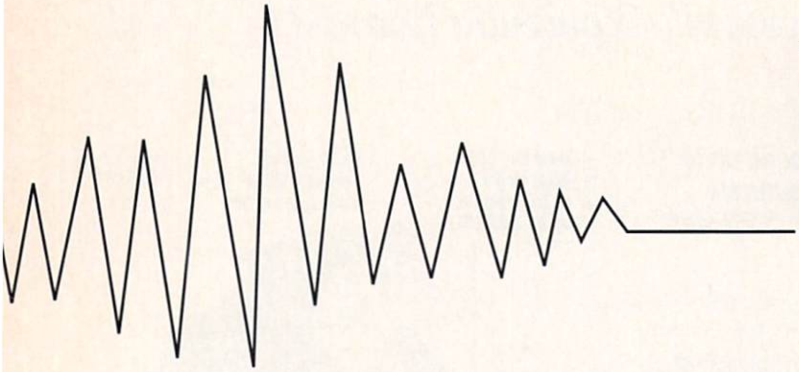

Feedback

FORM LETTER

I read the review of Top Form by Jeff James *(AC 6.3)* with interest since I had recently purchased and used the product. I was singularly unimpressed with the product and curious if the reviewer would agree. I realize that the review is in an Amiga computer magazine, so it makes sense that the audience is mostly people who have some idea of what they are doing with their Amiga. They know how to edit a startup-sequence, change their printer driver, etc. Given the audience, I suppose the review makes sense. Still, I like to think that I belong in that group who has some idea of what it is we are doing with the Amiga. That does not mean I appreciate having to use those skills every time I buy and use a new program.

I found Top Form to be primitive, difficult to use, and unsure of its own identity. To briefly touch on a few flaws, the icons on the control board are difficult to make out and some are cryptic as to their function. The manual tells me where the on/off switch for my computer is, and 12 pages mention the custom printer drivers to use to avoid the jaggies. I used the driver that matched my printer exactly and, sure enough, no jaggies were present; of course no lines were printed at all, only the text. I was not aware that printing straight lines without jaggies was so difficult. I have certainly seen it done many times. The "intelligent logic" which allows lines, grids, and boxes to always connect smoothly and perfectly fails to be intelligent if one needs to delete a row from a grid. I found this very difficult to do.

Given the things the Amiga is capable of doing, there is no excuse for the problems this program has. Unrelenting are the complaints of the lack of respect the Amiga receives, etc. Developers take note: the Amiga's greatest asset is not video capabilities, or musical capabilities, or even multi-tasking, although all of these are extremely important. Its greatest asset is the intuitive interface. For readers of this magazine who want to design a form, Top Form will probably be OK. But for the person who wants a computer to simplify his life without having to spend hours learning how to use it, this program is simply not any good.

If the Amiga is to make inroads into other companies' market shares, it will do it with programs that do the job better and easier than those available on other computers. I am convinced that the Amiga is capable of running programs of this type, but very few programs truly take advantage of what the Amiga can do. Mr. James admits to the problems of Top Form but does not seem too bothered by the fact that there is still no dedicated form-generating software that meets the ease-of-use-yet-does-the-job criterion. Yet he claims that this is a "lucrative and hotly contested segment" of the market.

I am constantly amazed that people can buy a MS-DOS machine and a program with a 500-page manual, and take a course on how to use the program offered at the local college, and they think they have improved productivity. Of course, they have — eventually. How about programs every bit as good with a 10-page manual and no "read_me" files?

Rich Beckman
Marion, IN

WORLDWIDE TV STANDARDS

In the January 1991 issue of Amazing Computing, the article "Electronic Color Splitter" caused

➛

Knowledge is Power

Macro Disassembler

ReSource is an intelligent interactive disassembler for the Amiga programmer. Full use is made of the Amiga windowing environment and over 700 functions to make disassembling code easier than its ever been. **ReSource** will enable you to explore the Amiga. Find out how your favorite program works. Fix bugs in executables. Examine your own compiled code.

ReSource will load/save *any* file, read disk tracks, or disassemble directly from memory. Virtually all Amiga symbol bases are available at the touch of a key. In addition, you may create your own symbol bases. Base-relative addressing is supported for disassembling C programs. All Amiga hunk types are supported for code scan. Display is incredibly fast.

ReSource now has a big brother. Like the original program, **ReSource'030** will tear apart your code like no other program. And it will do so even faster now, because **ReSource'030** is written in native MC68030 code. **ReSource'030** also understands 68030 instructions.

ReSource'030 supports the new M68000 Family assembly language syntax specified by Motorola to support the new addressing modes used on the 68020/030 processors. **ReSource'030** and Macro68 are among the few Amiga programs now available that provide this support.

Due to popular demand, we now offer **ReSource'068**. Functionally identical to **ReSource'030**, this program will run on a 68000 cpu. **ReSource'068** is included when you purchase **ReSource'030**.

"If you're serious about disassembling code, look no further!"

ReSource outputs old-syntax source, and will run on any 68K family cpu. **ReSource'030** outputs new-syntax source, and requires a 68020/030 cpu. **ReSource'068** outputs new-syntax source, and will run on any 68K family cpu. Both versions of **ReSource** require at least 1 meg of ram.

Suggested retail prices: Original **ReSource**, US$95; **ReSource'030**, US$150

Macro Assembler

Macro68 is a powerful new assembler for the entire line of Amiga personal computers.

Macro68 supports the entire Motorola M68000 Family including the MC68030 and MC68040 CPUs, MC68882 FPU and MC68851 MMU. The Amiga Copper is supported also.

This fast, multi-pass assembler supports the new Motorola M68000 Family assembly language syntax, and comes with a utility to convert old-style syntax source code painlessly. The new syntax was developed by Motorola specifically to support the addressing capabilities of the new generation of CPUs. Old-style syntax is also supported, at slightly reduced assembly speeds.

Most features of **Macro68** are limited only by available memory. It also boasts macro power unparalleled in products of this class. There are many new and innovative assembler directives. For instance, a special structure offset directive assures maximum compatibility with the Amiga's interface conventions. Listing control including cross-referencing is included. A user-accessible file provides the ability to customize directives and run-time messages from the assembler.

Macro68 is fully re-entrant, and may be made resident. An AREXX(tm) interface provides "real-time" communication with the editor of your choice. A number of directives enable **Macro68** to communicate with AmigaDos(tm). External programs may be invoked on either pass, and the results interpreted. Possibly the most unique feature of **Macro68** is the use of a shared-library, which allows resident preassembled include files for incredibly fast assemblies.

Macro68 is compatible with the directives used by most popular assemblers. Output file formats include executable object, linkable object, binary image, and Motorola S records. **Macro68** requires at least 1 meg of memory.

Suggested retail price: US$150

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much mirth and several ribald comments amongst fellow Amigans of my acquaintance.

The comical passage reads: "First, to simplify things, I'm only going to talk about video standards common in the United States. After all, this is an article about the Splitter, not about *every video standard in use throughout the world*." (my italics)

We suspect that the author probably has little or no knowledge about the Amiga computer and magazine sales worldwide — could you enlighten him? — and certainly no idea at all of the other two colour (note the *English* spelling) television standards that pertain to the rest of the world.

Roughly speaking, most of Europe, the United Kingdom, the English-speaking Pacific and much of the African continent use PAL (Phase Alternate Line), a German invention that automatically compensates for the hue reversal problem so familiar to American viewers.

In the French-speaking parts of the world, the standard is SECAM, a system where each colour is shown in its own frame, sequentially. Not such a popular standard, this one. It is used here and there about the world, though.

When it comes to the Amiga range of computers, there are NTSC computers and PAL computers, the main difference to the user being the greater definition of the PAL versions, afforded by the extra lines per frame that apply to that standard. Fortunately, programmers, in general being remarkably ingenious little gnomes (ILG), can write programmes that detect when they are running on a PAL machine and alter the display to suit. Sneaky, huh?

This of course means that the ILG's can make considerably more money from their arcane labours with PAL/NTSC versions than the NTSC-alone renderings. Considering that the major portion of the Amiga market (I am led to believe) now lies outside the United States, it is not surprising that a number of hardware manufacturers, paperware and software publishers, and marketing specialists are also getting in on the PAL/NTSC market by either bringing out dual standard products or producing two distinct versions of their merchandise.

This might also be a good time to note that there are two main AC voltages, 115 volts (as in the United States) and 240 volts (as in Europe, the UK, the Western Pacific Rim, and so-on) and two different supply frequencies, 60 cycles (guess who?) and 50 cycles (no prizes here either).

This isn't so difficult to handle really. Given that every country either produces or imports suitable "plugpack" DC supplies that squirt out the usual 12 volts DC (or whatever), it isn't unreasonable to consider exporting hardware products without plugpacks, and letting the purchasers supply their own to the indicated value, i.e., 12 vDC @ 500mA. The connectors could even be those dinky little DIN DC connectors that we see everywhere.

Right, so this leaves just two versions of everything — NTSC and PAL — for everybody to churn out, with — if pricing is competitive — good export dollars to be picked up by enterprising businesses around the world.

Because of this, outwardly interesting though "Electronic Color Splitter" is, it and similar parochial articles in other lesser international journals do little to inform or entertain Amigans outside the United States.

I recommend to Mr. Epley, therefore, that he and others take a wider view of the worldwide phenomenon that is "*AMIGA*" and write for the whole audience, rather than just for the domestic market. I think we would all benefit from the experience.

Euan Miller
Sydney, Australia

MARCH WAS A HIT!

March 1991's issue of *Amazing Computing* was the best I've yet received since I first subscribed two years ago. The reviews on both Macro Paint and Imagine were very good but the review of the Toaster was outstanding and far surpassed any other review of it. The breadth and depth was more than I expected and was not just a cheerleading exercise as some magazine reviews have been.

We need more articles like that on other hardware such as DCTV (which I just bought) and HAM-E, Colorburst, and the Firecracker 24. Also, it would be great if you could tell us which of these gadgets can work together and what software will work with them. How will Macro Paint images look on DCTV, for instance. Since I can't buy all this stuff (without getting a divorce), I'd also like to know how the image quality of the various devices compare to one another.

I'm just one reader but I felt it can't hurt to suggest some topics. Anyway, thanks for the March issue, keep 'em coming.

Kirby Spencer
Three Rivers, CA

All letters are subject to editing. Questions or comments should be sent to:

Amazing Computing
P.O. Box 869
Fall River, MA 02722-0869
Attn: Feedback

Readers whose letters are published will receive five public domain disks free of charge.

NEW! Requires AmigaDOS 2.0

Written with SAS/C under AmigaDOS 2.0, ***Ami-Back*** is ...

NOT JUST A PRETTY FACE!

AMI-BACK™

Hard Disk Backup and Backup-Scheduling Utility for the Commodore Amiga Personal Computer

- Operates on any Amiga computer running AmigaDOS 2.0 or greater.
- Elegant user interface for easy operation.
- Allows multiple configurations for a wide variety of backup and restore options.
- Backs up to floppies, high-density floppies*, harddrives, and SCSI tape drives.
- Performs complete, incremental (by date or archive bit), and selective backups.
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- Allows control of protections bits and file datestamps during restores.
- Allows you to Write-Over, Skip-Over, or Rename files during restores.
- Allows you to compare backed-up data to system data if data loss is suspected.
- User-configurable scheduler, *Ami-Sched*, allows unattended backups.
- Index files are saved after each backup.
- Log file keeps track of background scheduler operations.
- Background backups may be performed manually.
- Technical support for registered users is provided by phone, support BBS, GEnie, or BIX.
- *Ami-Back* is extremely fast.
- *Ami-Back* is multitasking friendly.
- *Ami-Back* is not copy protected in any way.

* Commodore standard. Applied Engineering's HD floppy does NOT work with some versions of Kickstart 2.0 at this time.

Ami-Back is a comprehensive hard drive backup utility with a number of powerful features that make it the most professional program of its type on the market. ***Ami-Back*** has been thoroughly tested with a large number of hardware configurations. Some of the tape drives tested include the WT-150 from Great Valley Products and the A3070 from Commodore Business Machines (both are QIC-150 type drives).

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NEW PRODUCTS & other neat stuff

by John Rezendes

IT'S TIME TO TAKE STOCK

Aggressive Communications is releasing **The Stock Analyst 3.0**, a program that provides greater insight into stock market activity. This updated version now supports the automatic downloading of data from a Data Service using the AutoLoader. Additional features include 12 price, five volume, and four broad market technical indicators, along with eight analysis tools ranging from trend lines to statistical analysis. The program is mouse controlled and provides keyboard shortcuts for invoking the multi-color indicator graphs. The ability of tracking stocks, bonds, commodities, mutual funds, and major market indexes on all security exchanges will be at your fingertips. *The Stock Analyst 3.0, price: $89.95, Aggressive Communications, P.O. Box 260883, Plano TX 75026-0883, (214) 424-2608. Inquiry #209.*

BRANCHING OUT

GFA Software Technologies, Inc. has announced the opening of its corporate offices at the following address:

GFA Software
Technologies, Inc.
27 Congress St.
Salem, MA 01970
Tel: (508) 744-0201
Fax: (508) 744-8041

The company will provide service and support to existing users of GFA-BASIC, promote the distribution and sale of the new versions of GFA-BASIC, and provide education in the use of the company's products. Products currently published include GFA-BASIC, an Interpreter and Compiler, and GFA-BASIC PC. Inquiry #210.

ONLY THE SHADOW KNOWS

L & V Productions Reg'd has announced the release of **SHADOWMAKER**, an Intuition-based font shadow and anti-aliasing generator. Using a

WYSIWYG real-time interface allows you the ability of adding anti-aliasing and background shadows to normal Amiga fonts. Other advantages to using SHADOWMAKER include no more text shadow building in your favorite paint package, consistent font anti-aliasing and background shadows, and a professional-looking production in a decreased production time. Requirements include an Amiga 500, 1000, 2000, 2500, or 3000, Workbench 1.3 or higher, 1MB RAM, and Workbench 2.0-compatible. *SHADOWMAKER, price: $24.99 + s/h. If purchased before May 31, 1991, price: $19.99, L &V Productions Reg'd, 110 Columbus Ave, Moncton, New Brunswick, E1A 5E4, (506) 532-0094. Inquiry #211.*

LOOKIN' DOWN THE ROAD

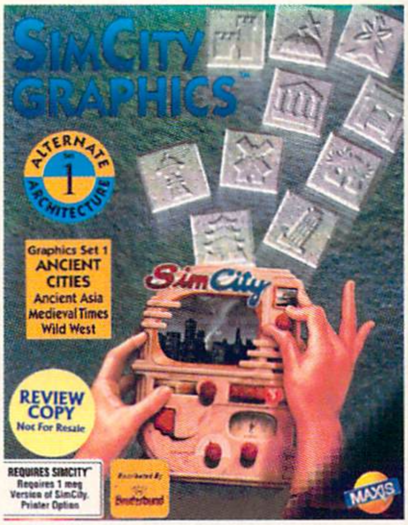
Adspec Programming has scheduled the release of **Draw4D-Pro**, its new software for the Amiga line of computers. The main emphasis for this program is in desktop video. Draw4D-Pro has implemented all of the features of its sister program Draw4D, with the addition of IFF bitmap textures, unlimited lights, gouraud shading, eyepath, canonical clipping, deep ILBM's, multi level deforms, speed, compatibility, enhanced tools, isometric view, and multiple spaces. Draw4D-Pro is scheduled for release late May 1991 and requires 2 MB of memory, Workbench 1.3 or later, Workbench 2.0-compatible, and any Amiga computer. *Draw4D-Pro, price: $349.00, Adspec Programming, P.O. Box 13, Salem, Ohio 44460, (216) 337-3325. Inquiry #212.*

PILOT TO BOMBARDIER, PILOT TO BOMBARDIER...

The Blue Max from **Three-Sixty Pacific, Inc.** has just been released. Stunning graphics and sound allow this program to paint elaborate air-combat sequences over France during 1917. The Blue Max uses eight different aircraft, each with its own individual flight characteristics, as used by WWI aces from France, Britain, Switzerland, America, and Germany. This game combines action with strategy as you try to achieve 20 air-combat kills for the glorious Blue Max Medal. There are seven possible missions which include bombing land targets, observation balloons, and defending observation aircraft. Historical data is accompanied by numerous illustrations and background in forming an impressive 100-page user's manual. Special features include full 32 color graphics, digitized sound, two player head-to- head play on the same keyboard or via modem, and instant replay. *The Blue Max, price: $49.95, Three-Sixty Pacific, Inc., 2105 South Bascom Ave. Suite 380, Cambell, CA 95008, (408) 879-9144. Inquiry #215.*

FIND MYSELF A CITY TO LIVE IN

Maxis has released two add-on graphic sets for the Amiga version of SimCity—The city Simulator. Set 1—Ancient Cities and Set 2—Future Cities both give the architecture and technologies of six different times and places. Ancient cities



SimCity Graphics from Maxis

The Blue Max—Aces of the Great War from Three-Sixty Pacific, Inc.

include Ancient Asia, Medieval Times, and the Wild West. Future cities gives access to Future U.S.A., Future Europe, and Moon Colony. The graphic sets alter the way that homes, stores, factories, parks, and sports stadiums are depicted. Senarios rangew from being Shogun Warrior of Ancient Asia to being a king or queen in Medieval Times to a miner on the Moon and fighting the creeping acidic fungus.
Graphic Set 1—Ancient Cities, Graphic Set 2—Future Cities, price: $34.95 each, Inquiry #229. Maxis, 1042 Country Club Dr. Suite C, Moraga, CA 94556, (415) 376-5434.

TOASTER VALUE ON THE RISE

Computer Creations 2, Inc. has expanded its leading-edge slide imaging capabilities by offering **hi-res slides and transparencies** that are imaged directly from **NewTek's Video Toaster**. This interface with the Toaster's advanced video graphics system permits the generation of slides and transparencies from any resolution video source, overscanned or underscanned, and with up to 16.8 million colors available. The program accepts input from either framestore image or RGB image (24-bit IFF) and is useful in the preparation of board room presentations, magazine artwork, posters, multi-media shows, storyboarding 3-D animation proposals, and anywhere else that only video graphics are available. The price of this service varies with the amount of slides/transparencies needed. *Computer Creations 2, Inc., 602 State Street, Cedar Falls, IA 50613, (319) 277-0630. Inquiry #200.*

Color imaging by Computer Creations 2, Inc.

CHROMAKEY

MicroSearch has released **ChromaKey**, a program which allows live video to be put in front of computer graphics. ChromaKey accepts any composite video signal including camcorders and VCRs. Any Amiga text, graphic, or animation can be used. The image can be hand drawn, scanned, computer rendered or digitized. Blue background and objects in the screen will be transparent, allowing the Amiga screen to show through from behind. ChromaKey works with any Amiga, superimposes live video on any graphic, accepts any NTSC video through a BNC connector, duplicates special video effects found in professional studios, and does not require time base corrected input. Included in the package are a backdrop of Chroma-blue cloth, two diskettes of graphics, and a video tape demo showing possible effects. An external genlock and an Amiga computer are required.
ChromaKey, Price: $395.00, Inquiry# 230, MicroSearch, 9896 S.W. Freeway, Houston, TX 77074, (713) 988-2819.

HyperBook-

(*noun*) *1.* a single product capable of unifying all aspects of the Amiga computer under the metaphor of "books" which can be customized to the users needs, *(ex. address books, push button menus, interactive teaching aids, and much more)*. *2.* a powerful tool for quickly creating interactive presentations and slide shows. *3.* a new standard in ease of use.

PEOPLE WHO USE THE AMIGA are as unique as the machine itself. No one application suits everyone. That's why we created HyperBook. Now anyone, no matter what their technical expertise, can customize their Amiga to work the way they want it to; from menus that launch your favorite programs, to custom address books and calendars, to interactive presentations and electronic slide shows. If you can use workbench, you can create HyperBooks. It's that easy.

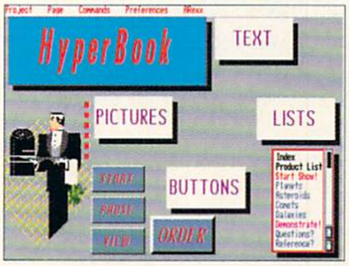
IT ALL STARTS WITH AN IDEA. Then use HyperBook's push button interface to make it happen. Create intuitive applications, like picture driven databases or appointment books. And for presentation and education, a click on a picture or chart can pop up information about it, launch another program, run an animation, or speak using the Amiga's speech.

With HyperBook you create free-form screens of information using the metaphor of pages in a book.

THEN ADD TEXT ANYWHERE YOU WANT with HyperBook's free-form format. Unique visual text controls make it simple to choose fonts, styles, spacing, and even margins with the mouse.

USE GRAPHICS TO ILLUSTRATE. Crop and scale any IFF picture and make it part of the page. For custom graphics and page accents, use HyperBook's extensive built-in tools to draw right on the page. Even create flashing boxes to grab attention!

CREATE CUSTOM BUTTONS WITH A CLICK. Buttons link your HyperBook pages (screens) and can be assigned all sorts of tasks, like executing Dos or ARexx commands, showing pictures, displaying text, and hiding or showing objects. The uses are limitless. In addition to standard buttons (with drop shadow or 3-D look), any object on the page can be a button. Each part of an airplane could explain itself when you click on it. Buttons are easy to create with just a click and drag, so any one can build custom applications easily.



ORGANIZE WITH INSTANT SCROLLABLE LISTS, and each item in the list can launch any activity a button can! Put in the names of all your friends, or your pictures, or the planets in the solar system. Then just a click can pull up pictures, data, or other pages of information or choices.

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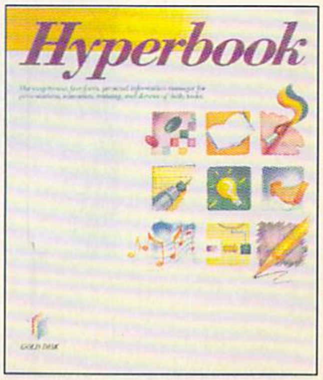

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VIDTECH'S

VideoMaster

by Oran Sands III

IT'S BECOMING RATHER DIFFICULT to introduce a new genlock these days. You either have to make it cheaper, cleaner, or somehow recognizably different from all the others. This fact hasn't stopped many from trying, though. Although they have had successful sales of their ScanLock genlock, VidTech International has released another genlock. And the new VideoMaster *does* set itself apart from others.

VidTech's VideoMaster outruns its sibling.

The VideoMaster follows squarely in the footsteps of its older brother, the ScanLock. It too is a Y/C-compatible genlock, perfect for use with S-VHS or Hi-8mm as well as with regular composite video devices. The VideoMaster outruns its sibling, though, surpassing the ScanLock both in features and quality. Although the casing and external appearance of the VideoMaster are similar to the ScanLock, a closer inspection reveals some unexpected features.

DISTINGUISHING FEATURES

Any genlock will synchronize and overlay your Amiga graphics atop a video signal from your camera, VCR, etc. It's the features that go beyond those basic functions that can distinguish one genlock from another. The VideoMaster carves a neat niche for itself by including capabilities found in no other genlock.

Let's start with the most obvious new feature: special effect wipes! Now you don't have to settle for merely fading in your Amiga graphics; you can use one of several wipe transitions. On the front panel are three buttons for selecting a horizontal wipe, vertical wipe, or a circle wipe. Select any of these and move the slider. You'll see your Amiga graphics appear over the reference video as you select. Press the Auto button and watch the transition occur at the predetermined speed. Now press the horizontal and vertical wipe buttons at the same time. Presto! — a corner wipe! Using the Invert Wipe button gives you even more choices.

All this takes place, of course, while the genlock is in Key mode. Put the genlock in Amiga mode and watch the transition wipe from the video to the Amiga screen, with no overlay. Although screen wipes are commonplace among SEG's, only the more expensive ones have keys that wipe on. The auto transitions are timed by adjusting a control that's accessible through a hole in the side of the case; the range is from 2 to 18 seconds. It would be more convenient to have a knob for it, though.

The other new feature is a built-in RGB splitter. The video source that's already hooked up to the genlock can be used for digitizing with Digi-View or a similar slow scan digitizer. Whether the source is S-VHS or composite video, the VideoMaster splits it into RGB signals, perfectly suitable for digitizing. You can also connect the VideoMaster to the Amiga to allow for switching between signals automatically, via Digi-Droid mode in Digi-View. The cable for this is optional; the digitizer is user-supplied.

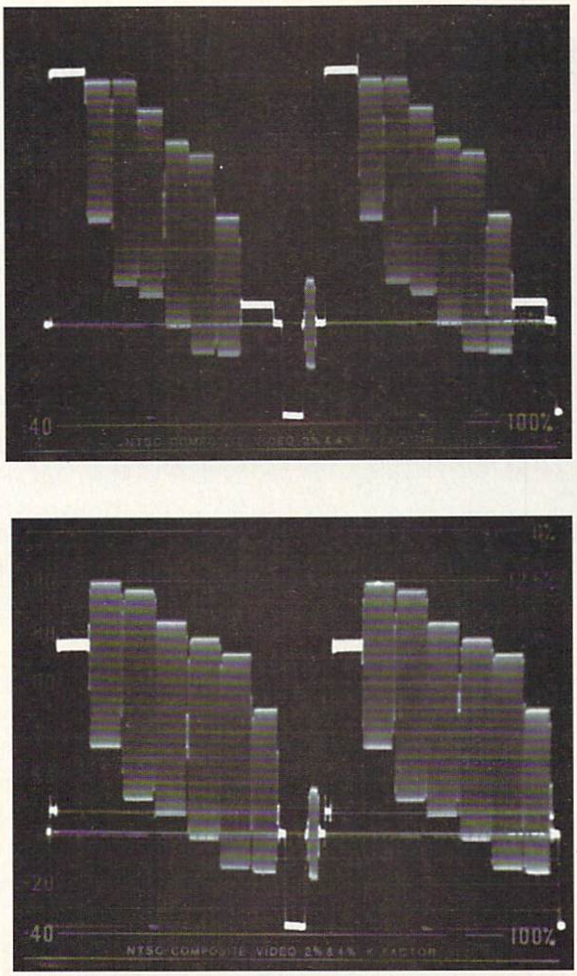
There are two touchpads on the front marked DIRECT and CODEC.

THE RGB PROCESSORS ARE USED NOT ONLY AS A COLOR SPLITTER FOR DIGITIZING; THEY ALSO PROVIDE THE AMIGA RGB MONITOR WITH A PICTURE OF THE CURRENT OUTPUT EVEN IF IT'S REFERENCE VIDEO WITH OVERLAID AMIGA GRAPHICS.

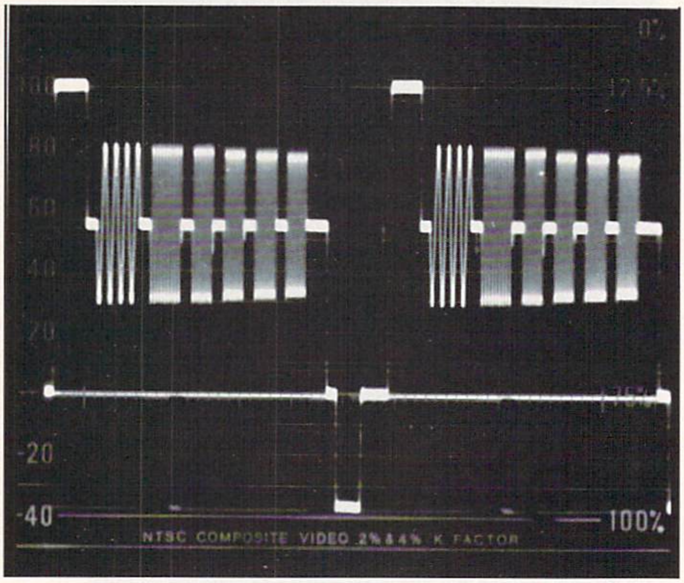
The CODEC switch originally selected a mode that was intended to process the signals in RGB to keep things clean. The DIRECT mode turned out to be even cleaner so the CODEC mode was dropped. The RGB processors were left in, however, and they are used not only as a color splitter for digitizing but they also provide the Amiga RGB monitor with a picture of the current output, even if it's reference video with overlaid Amiga graphics. Until now, the Amiga 2300 and the older 1300 were the only "affordable" genlocks that could do this. This is a big help, particularly if you have only one monitor (and that being your Amiga 1080/1084/etc.). You will be able to preview your fades, wipes and overlays on the computer's monitor. At the very least you can finally watch the football game on your monitor while working! There are times when such an arrangement gets in the way of previewing the next graphic to overlay. If you don't desire to use the RGB feature it can easily be switched off via DIP switch #4 on the rear of the unit.

Of course, these features would be worthless if the VideoMaster didn't deliver as a genlock. Looking at the transparency of the genlock, you'll find plenty of frequency response and very little change to the original signal. I found the color was accurate, but the overall chroma gain was off by about 5%. A quick call to VidTech revealed the internal adjustments needed to tweak the unit to perfect specs.

The conversion of the Amiga's RGB signals to video output was also very good, but not perfect. The ability to further tweak the Amiga's signal is



top: Full field color bars passed thru the VideoMaster; bottom: Full field color bars generated by A2000 (output from VideoMaster).



Frequency response in excess of 4.2 MHz.

provided thru access holes on the side of the case. Adjustable parameters are Hue, Luma, Chroma, and horizontal screen position. The faders work well — in fact, better than those found on the ScanLock. The knobs are one heck of lot stronger. Fading both signals out produced a black signal.

The VideoMaster has an optional external power supply which I recommend using despite the fact that you can use the VideoMaster without it. There is just no sense in risking your Amiga's power supply by going solo. I used the VideoMaster with a 2 meg A500 and a Phoenix heavy-duty power supply, and it produced rather nasty video until I hooked up the VideoMaster's power supply. There is a switch that controls whether the genlock uses the Amiga's power or its own. This switch can also be used to electrically remove the genlock from the Amiga without physically doing so.

BASIC OPERATING PROCEDURE

Using the VideoMaster is simple. Hook up the VideoMaster's cable to your Amiga's RGB monitor port and then hook up your monitor to the VideoMaster's RGB port. There are both composite video and Y/C inputs. Whichever signal you use can be looped thru to other devices. The VideoMaster has switchable terminations on the inputs as well. Whichever you choose, just make sure you select the proper input mode on the front panel.

Alternatively, don't feed any signal to the VideoMaster. It has its own internal signal generator so it will run and boot on its own. There are also two

VT ENHANCER

JUST AS WE WENT to press, VidTech announced the availability of their new VT Enhancer designed to provide for coexistence between their genlocks (both the Scanlock and VideoMaster) and an A2000 equipped with NewTek's Video Toaster.

Having a Toaster in your Amiga used to mean either using the Toaster in "genlock" mode or not using your Amiga graphics anymore. Now you can have your cake and eat it too!. Attaching VidTech's VT Enhancer between the Amiga's RGB port and one of VidTech's genlocks will let you use either the Toaster or your Amiga as you wish (but not both at the same time). The Enhancer works only with VidTech genlocks. It's only as big as a gender changer and takes no power that would further tax your Amiga's power supply.

VT Enhancer, Price: $50.00, Inquiry #216, VidTech International, Inc., 2822 NW 79th Ave., Miami, FL 33122, (800) 727-2261.

outputs each on both the composite video and Y/C signals. And remember how we could see our effects on the RGB monitor? By default that means that the equivalent of the genlock output is available from the RGB port. Use it with your own encoder or transcoder, or perhaps feed an RGB video projector.

> *WITH AN APPROPRIATE SIGNAL ATTACHED TO THE INPUT, YOU'RE READY TO BEGIN OVERLAYING, FADING, AND WIPING BETWEEN YOUR GRAPHICS AND VIDEO — YOU CAN DO ALL THREE AT THE SAME TIME!*

With an appropriate signal attached to the input, you're ready to begin overlaying, fading, and wiping between your graphics and video. That's right — you can do all three at the same time! It'll take you a while to adapt to using all these effects to their fullest. Try fading on a partial screen overlay of an Amiga signal. After establishing that shot, then wipe on the remaining graphics image. Or use a full-screen black image from your Amiga. Now wipe between that and your video to make it look like you own a studio SEG. The possibilities are endless.

Perhaps you need to digitize a picture. Still-frame that tape, apply the VideoMaster's color splitter output to your Digi-View module, and go. If you have the optional cable, then just select automatic mode in the Digi-View program and watch your Amiga switch the genlock's output and start digitizing.

I have only a few complaints regarding the VideoMaster. First, the touchpads for selection of all features don't offer much in the way of tactile feedback. Unless you press dead center on the touchpad, you may not make the selection. Fortunately, LED's are used to let you see if the selection was actually made. Also, there is a slight lack of sharpness in the Amiga monitor's picture. This is a result of having the monitor's RGB processed thru the genlock's various effects banks.

All in all, the VideoMaster is a good deal — decent quality and plenty of usable features. The VideoMaster is available in NTSC and PAL versions. It also features a one-year warranty, which is reassuring when faced with the nearly $1,300 suggested retail price. For those of you needing Y/C compatibility but not blessed with rich uncles, VidTech's VideoMaster is possibly the genlock for you. •AC•

VideoMaster
Price: $1,295.00
Optional items:
Digitizer Cable: $16.00
External Power Supply (for use with A500 or Toaster Enhancer): $95.00
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The Amiga Takes Manhattan

APPEARING IN NEW YORK CITY within three weeks of each other, The Hunter Group's World Of Amiga and AMI Shows' AMIGA Personal Computer Show (temporarily being referred to as AmigaWorld EXPO) attracted a great deal of attention. Many vendors were forced to choose between the two shows, while others took small booths at one show and larger areas at the other.

Since the shows took place within just weeks of one another, many of the same announcements were released by exhibitors at both shows. In order to cover these news items, and hopefully not repeat ourselves, we are covering both shows in the same report. The following are just some of the new product releases and special events that took place in the Big City.

CDTV, Grand Slam, and Video Toaster shine off Broadway

Interactive Video Systems packed the aisles each time they demonstrated their new **Grand Slam** board and 16-bit audio board. They ran a four-minute section of the climactic railroad scene from *Back To The Future III*. With the surround sound effects generated by their yet-to-be-released 16-bit audio board and the speed of taking video imagery stored in DCTV (Digital Creations' Digital Composite Television) in real time from the Grand Slam hard drive, the audience found it almost impossible to tell the difference between the image and a performance from videotape. Some of the success of the demonstration was due to the choice of subject matter (it had everything from big sound to special effects), but the IVS product was amazingly effective. The Grand Slam board supplied the over four megabytes of information at consistent speed and made the demonstration glitch-free.

IVS' Grand Slam board will be available soon at a price of $349.95. Grand Slam combines fast RAM expansion, SCSI interface, software, and special features including expansion to 8 MB. It even permits SCSI ID for use with their SCSI-SHARE SCSI networking.

Gold Disk demonstrated their new **HyperBook**, the free form hypermedia product that combines graphics, text, and your imagination to create applications, presentations, and more. According to the brochure Gold Disk made available, "Now anyone, no matter what their technical expertise, can customize their Amiga to work the way they want it to; from menus that launch your favorite programs, to custom address books and calendars, to interactive presentations and electronic slide shows. If you use Workbench, you can create HyperBooks." With buttons and professional transitions, users can create "books" and, with the help of the special freely distributable Reader, these "books" can be used by others without HyperBook.

ICD presented their miraculous **Novia 20i**, a 20 MB hard drive designed to go inside your Amiga. Promising a solder-free installation, the Novia 20i is priced at $649.95. While a little expensive for a 20 MB hard drive, it offers a no-nonsense addition to the Amiga 500 making it portable for business presentations and other applications where more disk space and the A500's small profile are needed.

Beta Unlimited announced that their **AudioLink**, a 16-bit stereo linear sound sampler, would sell for $1295 as soon as it receives FCC approval (unfortunately, no specific release date was available). AudioLink is a S/PDIF digital interface (bidirectional) at 96 kHz with 2x oversampling mode in mono and 16 voices (8 in stereo). AudioLink comes with one megabyte of memory, but is expandable to 16 megs on-board. AudioLink is an interface card, an external stereo analog-to-digital converter, and sample editing software. AudioLink reportedly can perform 16-bit audio recording, editing, and playback at sampling rates of 48 kHz in stereo. With features for Digital Audio Tape interface and MIDI direct-to-disk transfer, the Beta Unlimited card is aimed squarely at the audio professional.

Melissa Grey and Todor Fay of **Blue Ribbon SoundWorks** visited Commodore's booth at the World Of Amiga to talk about their new **Bars&Pipes Professional**, as well as their line of add-on products. The new Bars&Pipes Professional sports an impressive lists of features for recording, enhancing, editing, arranging, mixing, and synchronizing musical creations. With the addition of the Bars&Pipes add-on series (MusicBox A, MusicBox B, The Internal Sounds Kit, The MultiMedia Kit, and Rules for Tools), Blue Ribbon SoundWorks has provided enough features to keep musicians busy for some time. However, if you want to enjoy working with over 250 professionally arranged song files to customize and play your way, check out their MusicWare package.

Commodore's presence at The World Of Amiga was instrumental in the success of the show. Dealers were able to obtain equipment and material directly from Commodore's show floor warehouse. This provided a few nice savings to Amiga users who wanted to purchase merchandise at the show. The Software Hut did a terrific business selling a variety of Amiga insignia articles from satin jackets to golf umbrellas.

Commodore's booth dominated the rear of the hall with examples of products and applications for the Amiga, from business presentation to musical performance. Commodore's main emphasis at the World Of Commodore was to present and sell **CDTV** to the public. CDTV software was available at the show, with dealers selling both the CDTV player and software titles. Commodore distributed a catalog listing 32 vendors and 52 titles of CDTV products either released or soon-to-be available. They also reported an additional 40 titles for future release. With such names as Grolier, Disney Software, Guiness, and LucasFilm among their list of 325 CDTV developers, Commodore has certainly learned a lesson from the hard, cold days of the Amiga's introduction in which there was a great machine and little accompanying software.

With demonstrations of CDTV held every 1/2 hour, Commodore executives walked attendees through the many features and capabilities of their new device. They seldom mentioned that there was an Amiga 500 quietly hidden behind the CDTV component.

Commodore hosted a developers meeting where the energetic members of **CATS** described the latest tools for Amiga development and their importance to the Amiga developers. Jim Dionne told developers of the fantastic increase of machines in Great Britain (105,000 machines were sold in the Christmas quarter alone), and how he hopes to bring that same success back to the American market.

The AmigaWorld presentation placed a great deal of emphasis on NewTek's Video Toaster card. Special press announcements and a Saturday morning keynote address by NewTek's Tim Jenison and Paul Montgomery (introduced by Penn of Penn & Teller) demonstrated the influence that NewTek's Toaster has exerted on the Amiga market. This became evident as almost every keynote speech featured Todd Rundgren's music video "Change Myself", which was produced entirely with Amigas and the Video Toaster. The second floor of the exposition was held almost exclusively by companies supplying video equipment, with NewTek holding the largest booth.

Gail Wellington, Director of Special Projects at Commodore International, guides show attendees through the many features and capabilities of CDTV.

Great Valley Products demonstrated the presentation software, **Scala**, as well as a few new hardware products. Their **Series II** accelerator system in both 22 and 33 MHz versions can be used with an optional internal SCSI hard drive with a capacity of up to 340 MB (with optional mounting hardware). GVP has also redesigned their 50 MHz 68030 accelerator by providing it with 4 MB of 60ns DRAMS plus the expansion capability of up to 32 MB of 32-bit memory (base price: $2999).

Concise Logic of Danbury, CT announced their **Scannery1.1**. Promising full support of the HP ScanJet Plus, Scannery V1.1 provides 256 greyscale images, horizontal and vertical scaling from 1 to 50 in increments of 1/1000 units, horizontal and vertical resolutions from 12 to 1500 dpi, 255 brightness settings, 255 contrast settings, file formats including Amiga IFF and Encapsulated PostScript, plus a whole lot more. Scannery 1.1 runs under Workbench 2.0, includes ARexx support and support for Applied Engineering's AE SendFAX. Scannery 1.1 has a suggested list price of $250.00

Due to a baggage problem, **Ditek** was unable to demonstrate their amazing new **DynaCADD**. DynaCADD is a 2-D and 3-D general purpose design and drafting package.

Digital Micronics, Inc. announced two graphics processors for the Amiga 2000, 2500, and 3000. The **DMI020** is the first of the two cards. It offers 1280 x 1024 resolution, 24-bit graphics, and makes full use of the 16+ million color spectrum. The **DMI010** offers a 1024 by 800 resolution, 8-bit graphics, a 24-bit color palette, as well as the 16 million colors.

The 1024 x 800 8-plane system offers 256 active colors and over 800,000 pixels available for your use. The DMI010 system has a Memory Buffer Option that can be used to increase the resolution up to 1280 x 1024 or provide an even faster screen display at 1024 x 800 resolution. The Memory Buffer Option for the DMI020 doubles the amount of available RAM providing for faster screen displays.

Coming in June from **Spectrum HoloByte** is **Flight of the Intruder**, an exciting air combat game. Excellent graphics and detail highlight this exciting new release. Jump into the cockpit of your A-6 Intruder bomber and fly through dangerous enemy territory to your assigned targets.

Thirty-four different possible targets provide new challenges every time you take to the sky. Aerial photos provide a preview of the target zones. Choose from sixteen variables to determine the level of difficulty. Watch out for enemy MiGs and thick anti-aircraft fire.

ReadySoft joined the CDTV market with the release of its first CDTV product, **Wrath of the Demon**. Wrath combines CD-ROM storage technology and state-of-the-art multi-level parallax scrolling with spectacular graphics, animation, and playability to push the CDTV hardware to its limits. The program contains over 3 MB of graphic data, 600 screens of action, 1400 frames of animation, more than 100 colors on screen, and over 100 monsters, some larger than half the screen!

Also from ReadySoft comes the **A-Max II Plus** board, an internal card for your Amiga 2000/3000. A-Max II Plus has built-in AppleTalk and MIDI compatibility as well as the ability to use Macintosh-formatted disks with standard Amiga drives. This promises to be the all-in-one solution for Macintosh emulation on the Amiga. Once the Macintosh Plus 128K ROMs are installed into the A-Max II Plus board, you'll be able to take full advantage of the new features in addition to the A-Max II support for hard drives, processor accelerators, expansion memory and Amiga peripherals.

You will be able to connect to AppleTalk networks without a separate AppleTalk card. MIDI programs such as Performer and Vision are now not only compatible with A-Max II Plus, but don't even require an external MIDI interface.

Coming soon from **New Horizons Software** is **DesignWorks**, a graphic designer which promises to bring the powerful capabilities of structured drawing to a much wider audience. DesignWorks is for people who want to create detailed drawings from the simple to the complex without much effort.

DesignWorks includes an ARexx port with a compatible macro language, which makes it possible to interact with other ARexx-compatible programs. It is compatible with all graphics-capable Amiga programs that accept IFF picture files. DesignWorks is scheduled to ship later this month and will have a suggested retail price of $125.00.

New Horizons also showed **QuickWrite**, their high-performance, entry-level word processor. QuickWrite packs a powerful punch for such a small and affordable package. It's perfect for people who don't have the elaborate hardware that high-end word processors require. QuickWrite is currently shipping with a suggested retail price of $75.00.

A new release in the Amiga video market comes from **MichTron** — **VIVA II** (Visual Interfaced Video Authoring) by Knowledge Media. In conjunction with video devices, VIVA II is capable of being a stand-alone interactive environment which can be used for training, sales promotions, proficiency testing, or just as an information dispensing system.

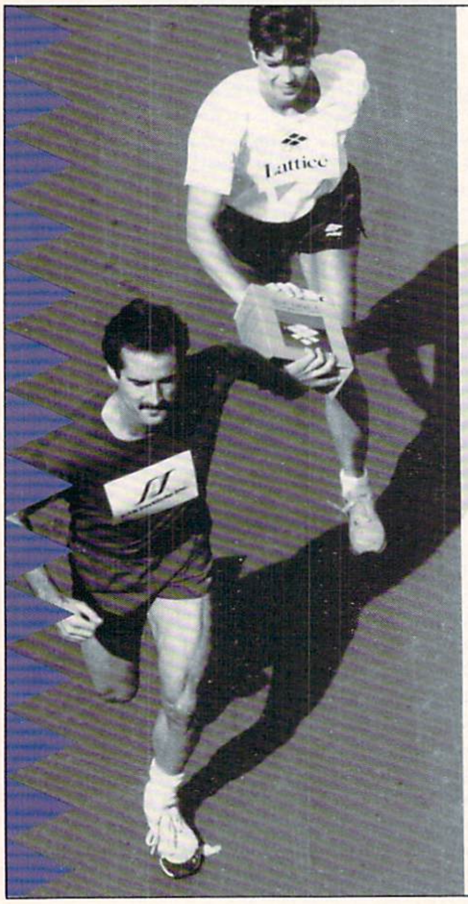
VIVA II is an icon-driven program that is extremely easy to use. Easy editing, graphics libraries, custom fonts, a speech module, a Graphic User Interface, and many more features add up to a sophisticated, intuitive program. Through the use of a video construction set, anyone can easily create an application to express their creative ideas with the click of a mouse. VIVA II is available from MichTron for $199.95. It requires an Amiga 500 and at least 1MB RAM.

Also from MichTron, we have the **Video-Link** remote control for the VIVA II with ARexx interface. Bring the features of interactive video to your favorite software program. Video-Link provides control of laser disc players either through the Workbench or ARexx interface. Extend the AmigaVision and CanDo capabilities to include control of consumer laser disc players. Video-Link has a suggested retail price of $49.95.

Five new Amiga game titles were announced by **Electronic Arts**, including **The Bard's Tale III: Thief of Fate**, a role-playing adventure with over 13 character classes and 80 dungeon levels.

Spectacular graphics and a unique combination of role-playing and strategy make **Centurion: Defender of Rome** an unprecedented cinematic adventure. Explore the very edge of unknown civilization. Participate in colorful displays of clashing gladiators and rushing chariots. Or, test your diplomatic skills against Hadrian, Hannibal, and the beautiful Cleopatra.

Enter the world of professional golf with **PGA Tour Golf**. See TV-style graphics with aerial fly-bys of every hole and multiple shots of the ball in flight, and hear announcers and pro tips. You can tee off against 60 top PGA Tour pros and compete in actual tournaments like the Kemper Open and The Players Championship.



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Ski or Die, an exciting multi-event winter snowboarding adventure game promises to be interesting. Armed with your snowboard, team up with Rodney and Lester—everybody's favorite abusive tag team—and tackle the slopes in this great arcade action game.

The Barney Bear Collection for CDTV was announced by **Free Spirit Software**. With Barney Bear, your children can explore the world of computing all by themselves. Using interactive stories and the many learning activities, your children will learn as they play. Each program includes a full-featured coloring book.

Each learning game starts with story time, complete with music, animation, sound effects and speech. Your children join Barney Bear in four exciting adventures.

ASDG announced the release of **V1.0.3** of the **Art Department Professional**. New features for this release include drivers for the Impulse FireCracker 24 and Progressive Peripherals & Software's FrameGrabber, support for MacPaint and Black Belt System's HAM-E file formats, and new image-processing functions. New drivers for the Art Department Professional bring peripherals from color-imaging heavyweights to the Amiga. Support for Epson color scanners, Polaroid digital film recorders, and Kodak dye sublimation printers add to the Art Department Professional's role as "Image Processing's Common Ground".

Fuller Computer Systems announced the release of **Project D 2.0**, the latest version of their disk-copying program. Features include the ability to back up non-protected and protected disks, a multi-copy function for mass duplication of disks, a cataloging utility, an editor, and the OmniTool, which is able to duplicate the Atari ST, MS-DOS, CP/M and Xenix formats.

New CD-ROM technology arrived from **California Access** in the form of the tentatively titled **CA-650**. The driver will allow the Amiga user to access industry-standard CD's. The driver supports the ISO 9660 standard for CD-ROM interchange and allows for the use of IBM and Macintosh ISO discs on the Amiga. The CA-650 is scheduled for release during the second quarter of 1991.

A 24-bit color scanner for the Amiga is on the way from **Oxxi, Inc.** The **ScanMaster** scans at 300 dpi resolution and can process images up to 256-level monochrome or 16.7 million colors. Its advanced image-processing capabilities include 256-level greyscale processing, digital halftoning, five-level gamma correction and 24-bit color separations. ScanMaster's ImageMaster utility software features a number of professional tools for enhancing, manipulating, and saving images. ScanMaster prints 256 colors on any preferences printer.

Also new from Oxxi is **P-Stat**, an interactive statistical data analysis package designed for market research and academic situations. P-Stat offers over 50 statistical functions, 25 graph types, and animated charts. P-Stat also provides full support for ARexx.

Aegis Visionary is the Aegis interactive gaming language from Oxxi, Inc. It is a BASIC-style optimized game-programming environment. Features include over 60 specific gaming commands, graphical manipulation tools, and 19 mathematical operators. Larger-than-screen page scrolling, 50 on-screen hot spots, and image blittering are also supported.

Also announced was an upgrade for **Photon Paint**, which lets owners of the program upgrade to Aegis **SpectraColor**, Oxxi's new 4,096 color paint program, for just $49.95 plus shipping costs.

New from **Digital Processing Systems** is the **DPS Personal TBC**, a time base controller for use with the Video Toaster. The board fits inside an Amiga, has full NTSC and S-VHS broadcast-quality performance, is compatible with all VCR's, and has full frame storage for infinite window timing correction.

I.Den presented a digital time base corrector and frame synchronizer, the **IVT-7**. The IVT-7 is a 4:2:2 digital processing time base corrector with infinite window correction. It uses the latest state-of-the-art I.C.'s to provide high-performance processing.

ImageFinder was demonstrated by **Zardoz Software**. ImageFinder is a powerful graphics indexing utility which scans disks for IFF ANIM and ILBM image files. The program analyzes images and stores information in compact index files. One of its features allows you to browse through miniatures of images on a custom screen.

Roctec Electronics has arrived in the Amiga market with a series of peripherals for the Amiga user. Highlights of their products include an Ultra Slim drive, a 5.25-inch drive that will do 360K format with a bridgecard, an entry-level genlock with manual dissolve functions in overlay and fade modes, and an antivirus device with audio alarm and track number display.

RasterLink 3.0, formerly ImageLink, was announced by **Active Circuits**. RasterLink is image-conversion software for the Amiga. It features improved ARexx interface and an improved user interface. RasterLink converts raster images between a variety of popular formats. The software uses an AmigaDOS 2.0 look and feel even under AmigaDOS 1.3 and is fully AmigaDOS release 2.0-compatible.

Supra Corporation introduced several new products. The new products include an external RAM board for the A500, and three new modems featuring data compression and error-correction protocols. In addition, they announced that both the SupraDrive floppy disk drive and Supra's hard disk software have been enhanced.

M.A.S.T. (Memory and Storage Technology) introduced two products: **S.A.M.**, a SMPTE/MIDI interface, and **Colorburst**, a 24/48-bit, high-resolution graphics card. S.A.M. combines a 5-port MIDI interface and a time code converter into one unit. The Colorburst graphics card is compatible with all Amigas and delivers 24-bits in 16.8 million colors.

RXTools, Teachers Toolkit, and Brigade Commander are three new Amiga products available from **TTR Development**. RXTools is an object-oriented user interface builder which extends the capabilities of ARexx.

Teacher's Toolkit is a complete lesson planner and gradebook system which allows for lesson planning, student tracking, and class lists. Brigade Commander is the latest war game for the Amiga. It features real-time action as opposed to the normal turn-by-turn play. Brigade Commander includes a Desert Storm data disk with detailed maps and scenarios.

Also announced from TTR was the first operational **1.3 gigabyte 'DAT' tape system** for the Amiga designed for high-capacity storage (this is part of the Diamond Store series from TTR). This SCSI tape system works with Workbench 1.3 and 2.0 and has ARexx capability.

As part of its Gemstone Tape series, TTR announced a SCSI streaming tape system as well. This too is Workbench 1.3 and 2.0-compatible and offers ARexx capability for hands-free backups.

Superbase Professional 4, a Graphic User Interface and database manager from **Precision Software**, was announced. Superbase Professional takes full advantage of GUI design for ease of use, while its powerful development capabilities make it a highly effective tool for implementing production applications. Superbase Professional 4 is recommended for Amiga computers running Workbench 1.3 or later with a hard drive and 2MB RAM. It is available in single user, networked, and runtime versions.

Octree Software announced the release of **Caligari Broadcast 2.0**. The update includes such features as a new real-time color interface and a second generation virtual reality user interface. Photorealistic rendering in 16.7 million colors, real-time animation previews, and true broadcast-quality also highlight the new release. •AC•

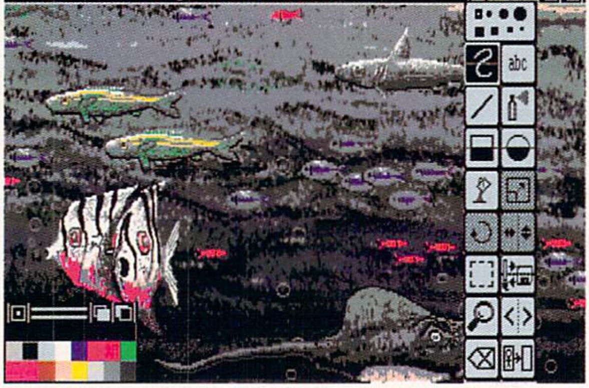
Turn to page 54 for a complete listing of exhibitors for both shows.

REVIEW

All In One

by Kim B. Schaffer

IF YOU ARE NEW TO THE AMIGA and want to try a bit of everything, you'll be tempted by Gold Disk's All In One. Inside the All In One box is an instruction manual, three disks, and a video tape. The package may best be described as a smorgasbord of programs for the non-technical beginner. All In One appears to be for someone who might want a collection of editor, paint, music, and game programs to get started using a basic Amiga like the Amiga 500.



With Paint, you too can create exciting pictures like this one, easily.

The package is well suited for use without a hard disk. Each program stands alone and you do not have to swap disks while you're in a program, unless you want to save your work to another disk. Though no install program is included for the hard disk user, the package is easily installed on a hard disk and requires only three assign commands to work effortlessly.

These programs can be run simultaneously, but don't communicate with each other or transfer any information. This means you should be able to run any of the programs without worrying too much about RAM memory constraints.

The video tape, definitely intended for the beginner, takes you in steps through the set up of an Amiga 500, provides an introduction to Workbench 1.3 and an introduction to each of the writing, paint, and music programs, and ends with displaying some other Amiga packages, not just Gold Disk's. The tape suggests that you should consider the addition of an extra drive or a hard drive.

Although written for the beginner, the manual serves everyone well. Starting with an overview of the programs, it then provides backup and support information. The user is then taken through a brief tutorial of the Write, Paint, and Music programs, giving you a hands on introduction to many of the features of these programs. There is a full reference, organized by features and menus, for each of the programs and games. Program shortcuts are included in Appendix A. Never tedious, the 100-page manual does an excellent job of providing essential information. By now, you should be ready to get on with the programs.

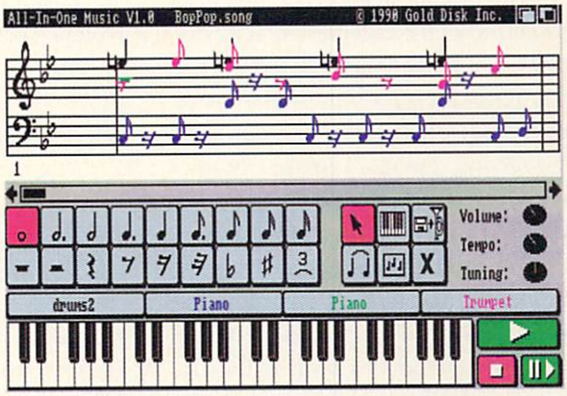
The screen size of Write, the editor, is fixed with the characters flowing across the screen and wrapping as necessary. This is not a WYSIWYG editor, but bold, underline, and italic text are shown. Along the right-hand side are two columns of icons and a slider bar which moves the cursor up and down within the text. The text is selected by the function keys or the mouse. The mouse doesn't support highlighting by word, sentence, or paragraph. That's for you to do.

After selecting or highlighting the text, the user easily accesses Cut, Copy, and Paste through the icons on the side of the screen. Styles, date, time, and capitalization can also be selected. The remaining icons position the cursor at the beginning or end of the line, top or bottom of the document, turn on or off a typewriter clicking sound, select print, or give you a quick status of your document. Most of these functions have keyboard shortcuts and hidden menus. In fact, one menu selection that seems like overkill moves the cursor to the next word.

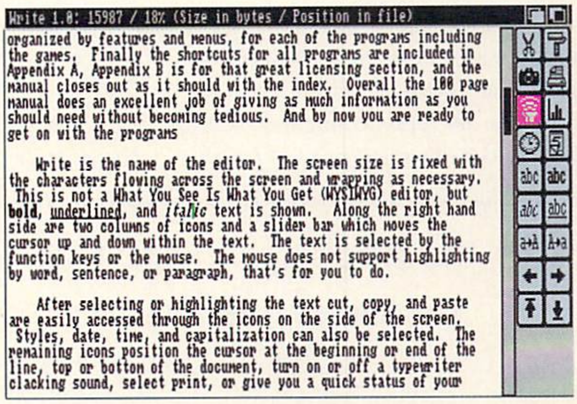
Formatting the document is done by entering commands in the text, which Write translates when printing. In this way you can set margins, header, footers, page numbers, comments, and page ejects. It's not the simplest to use or to understand, especially for beginners, but once the commands have been entered, they can be easily located and changed. Printer commands can also be entered into your text to control your printer more directly, if you are familiar with the commands for your printer.

Spel
Chek

The spelling checker, simply called Spell, is really a separate program that shares the same disk as Write. When executed, Spell copies the dictionary to RAM. You cannot use the spelling checker in Write without separately starting Spell. You can, however, use Spell as a standalone program. When using Spell in Write, it works as if it's part of the program. You can check the spelling of a word or the portion of the document from your cursor to the end. This means if you want to check the whole document, you have to move the cursor to the top of the document first. When Spell encounters a word it doesn't recognize, a requester pops up giving you five choices. You can accept the word, accept the word and save it into the user dictionary, have Spell suggest correctly spelled similar words, change the spelling yourself, or cancel the checking. If you elect to have Spell offer alternatives, you can click the mouse on a word to replace the misspelled word or cancel the listing of alternatives.



In the program Music, notes can be entered via the Amiga keyboard, the mouse, or the displayed keyboard icon.



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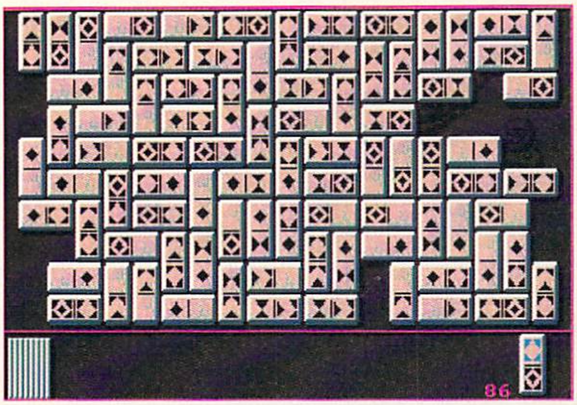
Write 1.0: 15987 / 18% (Size in bytes / Position in file)
organized by features and menus, for each of the programs including
the games.  Finally the shortcuts for all programs are included in
Appendix A, Appendix B is for that great licensing section, and the
manual closes out as it should with the index.  Overall the 100 page
manual does an excellent job of giving as much information as you
should need without becoming tedious.  And by now you are ready to
get on with the programs

    Write is the name of the editor.  The screen size is fixed with
the characters flowing across the screen and wrapping as necessary.
 This is not a What You See Is What You Get (WYSIWYG) editor, but
bold, underlined, and italic text is shown.  Along the right hand
side are two columns of icons and a slider bar which moves the
cursor up and down within the text.  The text is selected by the
function keys or the mouse.  The mouse does not support highlighting
by word, sentence, or paragraph, that's for you to do.

    After selecting or highlighting the text cut, copy, and paste
are easily accessed through the icons on the side of the screen.
 Styles, date, time, and capitalization can also be selected.  The
remaining icons position the cursor at the beginning or end of the
line, top or bottom of the document, turn on or off a typewriter
clacking sound, select print, or give you a quick status of your
```

The editor, Write, allows for easy character manipulation with the click of a button.



The object of Intrigue is to match the patterns on the tiles, with the opposite side of the tile being the new match pattern.

One last thing especially interesting about Spell is that you can select up to three options when you run it. The first option lets you identify and use as many user dictionaries as you need. The second, the one I found unique, lets you compile a user dictionary as a reject list, words you don't want recognized as valid. This feature gets around the inability to change the words in the dictionary. The final option lets you save RAM memory by running the dictionary from the disk rather than loading it into RAM. Of course, this is disk-intensive and slow.

After the text has been entered, the format codes have been selected, the spelling has been checked, you're ready to choose the print command. Select the number of copies; print left, right, or both sides of text; which pages to print, the line spacing, the number of lines per page, and finally the destination. The destination can be the printer, a file, or the screen. By selecting the screen, you can "preview" the text, checking margins, justifications, and widow/orphan lines. The preview screen moves as you move the mouse so that until you become used to it, it's a little like being in a dingy in the ocean. Whichever way you choose, the screen moves the other way, and you have to move to the top to select the next page or to cancel previewing. For the preview to be correct, you must have set up the printer preferences properly, things like lines per page and characters per inch.

> "The package may be best described as a smorgasbord of programs for the ... beginner"

Write does not support graphics or alternate fonts. The tab function inserts only four spaces. However, the clipboard is supported and you can cut and paste between other programs like Notepad or Scribble! Although it has a few bugs, it's a good entry-level word processor. I've yet to have it crash or lose anything.

Like Write, the Paint program is a good entry-level program. The screen resolution can be set to 320 or 640 horizontal and 200 or 400 vertical. Screen colors can be set from 2 to 32 for 320 horizontal and 2 to 16 for 640 horizontal, out of a palette of 4,096 colors. There are two windows which can be moved or removed and called back as necessary, the Tool window and the Color window.

The Tool window lets you select the default brushes, dots, lines, rectangles, ovals, spray, text, or fill. It also has icons for custom brush definition, sizing, rotating, saving, or loading. The tool window also includes icons for magnifying, selecting the level of magnification, an undo command which can't be undone, and the erase-all icon.

There are eight default brush icons, which use the color defined in the color window. One brush is allowed at any one time, but you can define your own brush. Brushes are sized, rotated, and flipped from the original brush, lessening the distortion after multiple changes. Custom brushes can use only the original colors.

Text is treated as a default brush in Paint. A maximum of 64 characters of text can be defined at a time. The text can use any font in the Workbench and is inserted with the color defined in the color window.

The colors in the color window can be changed, copied, or swapped. The colors can also be spread between locations automatically. Colors can be changed by red, green, and blue intensity, or by Hue, Saturation, and Luminosity.

Printing uses the settings used in Preferences, but the settings can be changed using Preferences without closing Paint. Paint can also close the Workbench screen if other tasks don't require it, saving memory if needed, especially in the high-resolution and 16-color mode. Paint also has a very unusual option for saving. A song can be saved with the picture so that when the picture icon is selected, the picture will be displayed and the song played at the same time. Where do you select the music from? Why not use the Music program included in All In One.

The Music program at first appears to be a very fragile program. However, after working with it and keeping my patience, I can say that if you let it load and settle down before you try to use it, it will behave very well. When loading, the program sometimes brings the Amiga to an apparent dead stop, but if you wait, it comes back to life. After a few iterations the program settles down so that you can run it and other programs at the same time.

When it first starts, the program has a very busy screen. The top third of the window consists of the scale with a default of two measures, which can be changed as necessary. The middle third of the screen consists of icons for notes, rests, flats, sharps, and triplets. In addition there are icons for using the keyboard, selecting instruments, tying notes together, selecting blocks of notes, and deleting. One last set of icons look like knobs, and control the volume, tempo, and tuning. The final third of the screen has four icons for the four instruments; a keyboard for entering music; and the Play, Stop, and Continue icons.

When entered on the scale, the notes appear in a color that is keyed to the instrument selected. Notes can be entered with the pointer, by the keyboard icon at the bottom of the screen, or by using the Amiga keyboard as a musical keyboard. The beat of the notes and rests can vary from a whole note or rest to a 1/32 note or rest. Each time the note or rest length changes, the change must be selected from the icons, which are in the middle of the screen. Notes cannot be edited, but can be inserted or deleted. The easiest way to enter music is to play it on the Amiga keyboard, then "edit" by inserting the correct timing where needed and by deleting the notes with the wrong timing.

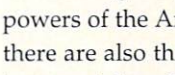
Notes can be blocked and then cut, copied, or pasted; or the notes can be transposed up or down in increments of semitones. Key signatures and timing can also be selected. By using the tempo and tuning gadgets, you can change the speed of the playback and the tuning of one or more instruments.

The score can be displayed for one to nine measures, with the number of measures displayed at a time selected by the user, depending on the timing and the notes. The printout is made with the same number of measures per line and with only one line printed sideways per sheet. For a black and white printout, the notes for each instrument can become very confused.

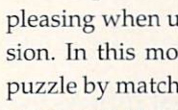
MIDI is supported in Music by the ability to assign each instrument a channel from 1 to 16 and a program from 0 to 127. The MIDI file can be saved in standard MIDI format, which can be read by most MIDI sequencer packages. Using the Amiga as a MIDI controller would also require the purchase of a MIDI interface.

Music does lack some very basic capabilities, however. Repeats are not supported. Neither are key or timing signature changes supported within the song. In addition, there are only four instruments included in All In One. Still, Music does provide a way to investigate some of the power of the Amiga, while giving you a better idea of the type of music program you might want.

After getting to know some of the powers of the Amiga with All In One, there are also three programs that are just good fun. Gold Disk went out of their way to demonstrate that not only are there many different uses for the Amiga, there are also different types of games. All In One includes a pattern-matching game called Silhouette, a solitaire game called Intrigue, and an arcade-type called Bouncer-Shaker.



Silhouette was the least interesting and most difficult game for me. It claims to double as a psychological test, but it appears to me to be a mouse mastery test. Despite how this sounds, it is quite pleasing when used in the puzzle version. In this mode, you complete the puzzle by matching the pieces you are given one at a time. No matter how hard I try, though, I never finish. Frankly I don't think I can move the mouse fast enough to match the "average" times listed.



Intrigue is a tile game that is almost a cross of mah-jong and dominoes. The tiles are laid out as close as possible with each tile divided into two parts. The object of the game is to match the patterns on the tiles, with the opposite side of the tile being the new match pattern. All tiles that have a matching pattern which is exposed on one side

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are eligible tiles. The game continues until you have run out of tiles or you cannot match a pattern. There are three different levels of play, the level of difficulty depending on the number of different tiles. The game is easy and a digitized voice quickly tells you if you have chosen a tile that does not match, or if the tile is not free. The game proceeds at your own pace, and is relaxing.

Bouncer-Shaker is just like one of those games you might find in an arcade and think that it was different enough to try. The object of the game is to tile over a hole by controlling a bouncing ball that picks up a tile and puts it down whenever you land on a new place. If a bee stings you, you drop the tile. If you go to an uncovered spot without a tile, you fall into the hole. Meanwhile there's Peeker and Shaker pulling your tiles down, Muncher that eats a row or a column unless you hit him or a bee stings him, and Hammer that's swinging for you blindly. The sound effects are as entertaining as the game. This is one game you can use to wake up and refresh yourself if you can bear to leave it once you've started.

Overall, Gold Disk has an excellent beginner's package, as well as one that I'll certainly pull out from time to time. There are a few places where improvements can be made and Gold Disk seems to be the type of company that is always interested in improving their product and supporting the user. Currently, All In One is not compatible with Workbench 2.0, but I had no major problems running it on a friend's Amiga 3000 with an early version of Workbench 2.0. If someone were just buying an Amiga 500 and could afford only one software package, I would definitely recommend this one. If anyone could afford a couple of others as well, I'd recommend he add a spreadsheet program and maybe a CAD-type package. But someone would have to fork out a lot of bucks on a lot of software before All In One wouldn't be worth the price.

•AC•

All In One
Price: $79.95
Inquiry #223
Gold Disk
5155 Spectrum Way, Unit 5
Mississauga, Ontario
Canada L4W 5A1
(416) 602-4000

Please write to Kim B. Schaffer, c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722.

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Bridgeboards & System Expansion

by Mark D. Pardue

For Bridgeboard owners, expanding either the Amiga side or the IBM side of one's system to include additional drives, memory, and I/O can be a frustrating experience. Lack of slots/space and potential incompatibilities make it imperative to plan expansion carefully and well in advance.

Now that you own a Bridgeboard, you probably have noticed that the number of available expansion slots in your Amiga seems to have been dramatically reduced. And your drive bays are full if you have two AmigaDOS 3.5" floppies, or at least close to being full if you have only one AmigaDOS 3.5" floppy. At this point most of us shrug off the feeling of being limited space-wise, rationalizing to ourselves that we have all the boards and drives in our machine that we will ever need, and we still have a "little" room left besides. Unfortunately, that can change very quickly.

You may want to add extra RAM on the Amiga side, extra RAM on the IBM side, a hard disk controller on the Amiga side, a hard disk controller on the IBM side, an additional floppy on the IBM side, an I/O board on the IBM side, etc. Right now you may not think you will ever want (or be able to afford) all those boards. And if you add up the number of those boards and drives, you'll quickly see that the prospect of them all fitting is questionable. But there is a way to include all of these necessities (notice how I am rationalizing the future purchases already) in your system with proper planning. It will save you not only space, but money and trouble.

Thus, the purpose of this article is to give Bridgeboard owners the essential elements of a plan they can follow for easy Bridgeboard expansion. The plan need not be followed strictly, as each user's requirements will vary, but the basic guidelines should always be kept in mind to assure yourself of not reaching that "dead end" where you need to add another board to your system but don't have another slot.

THE EXPANSION PLAN

Our starting point is an Amiga 2000 with an A2286 Bridgeboard installed.

1. When you add memory to the Amiga side of your system, minimize the number of boards and add other capabilities.

For example, do *not* buy a 2 MB RAM board! You will want (need) more memory later. You will likely end up either buying another 2 MB board (just lost another slot) or an 8 MB board and selling off your old 2 MB board (just lost money). Buy an 8 MB board to begin with so you can get up to the full 6 MB available to you

→

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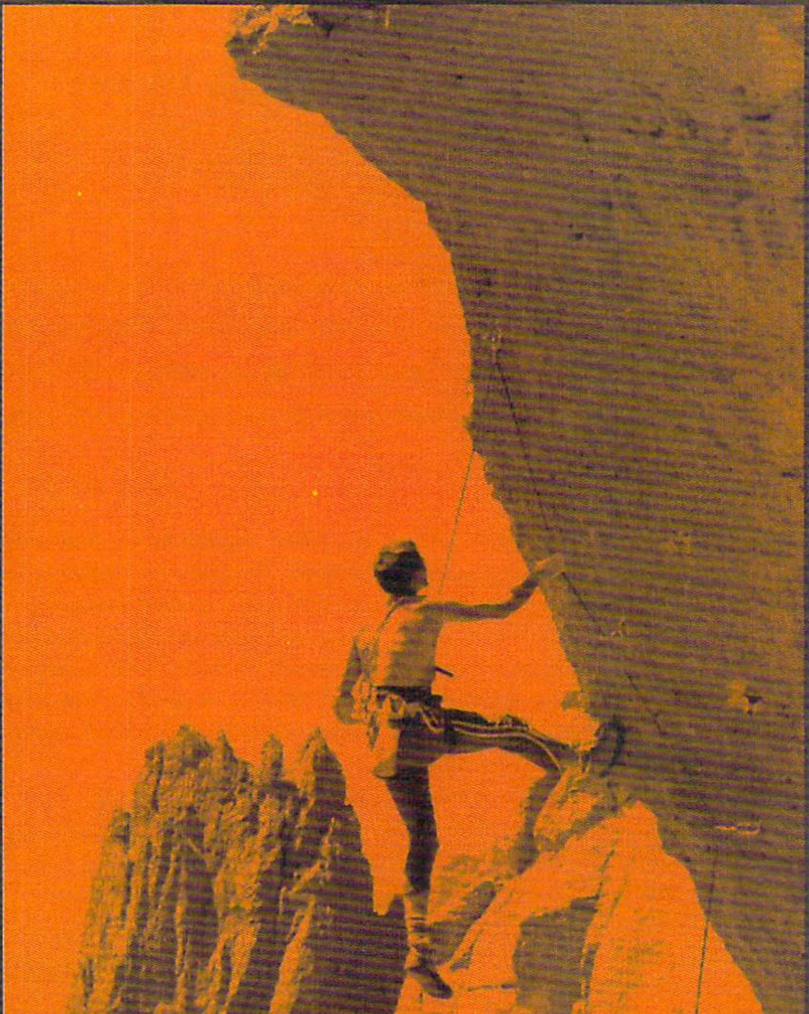

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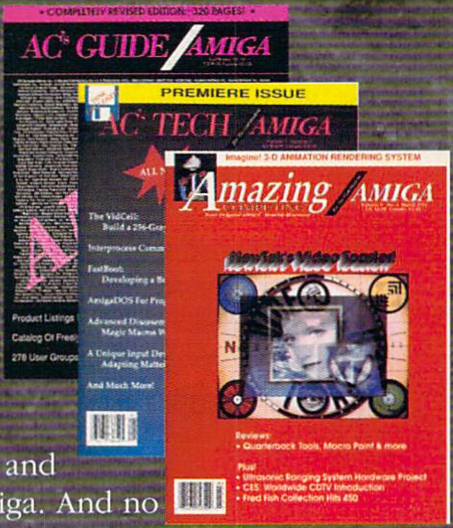
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BEYOND THE CGA SCREEN

For many applications, the IBM CGA screen that you get on an Amiga 1084 monitor when using a Bridgeboard is just fine. In fact, using the Amiga screen colors for the IBM CGA display gives you greater freedom in setting colors for programs. However, there are applications needed by some Bridgeboard users (e.g., CAD) in which CGA is just not good enough. There are a few different approaches you can use to get VGA and better-quality displays using a Bridgeboard, all of which cost several hundred dollars.

(1) Two Separate Monitors. There is an easy approach in that you simply buy a separate IBM video card and monitor. It can be a standard VGA card or something exotic to support other standards such as TARGA. The IBM-side monitor plugs into the video card, and you disable the monitor functions on the Bridgeboard using PCPrefs. Some users have reported isolated incompatibility problems, usually with file transfer functions, which use the same memory address space as some video cards. I have used a VGA monitor this way and have had absolutely no problems — the VGA display was perfect.

(2) One Multiscan Monitor. You can use a more expensive multiscan monitor for both the Amiga- and IBM-side displays. You must then use an A/B switch to go between the two. Care must be taken in making up the cable from the Amiga side of the system.

The only point to remember with either of these approaches is to make the PC Bridgeboard window on the Amiga active, as always, to do anything on the IBM side of the system.—*M. P.*

(remember that the Bridgeboard uses 1 MB of address space and, because most Amiga memory boards configure in 2 MB increments, you lose that whole 2 MB address space). You can add RAM chips as you need them and can afford them.

Instead of settling for just an 8 MB board, try getting an 8 MB board that also has a hard disk controller or some other function on it. For example, at least one manufacturer now sells a hard disk card with up to 8 MB of memory. The controller is a SCSI controller that can handle up to five more drives. The hard disk is mounted on the right side of the board as it is oriented inside the computer, so that you can place that card in your right-most Amiga slot and the hard disk doesn't hang over any other slots. This also saves you a drive bay (almost as important as preserving board space). The one board takes only one slot but provides for all of your Amiga system RAM, all of your Amiga hard disk controlling, and one Amiga hard disk. This saves both space and money.

2. When you add memory to the IBM side of your system, minimize the number of boards and add other capabilities.

Just as I've advised you on the Amiga side of your system, you can save board space when you add RAM to the IBM side of your system. Some users may be able to use their Bridgeboards with only the memory that came with them (512K with the 2088 XT and 1M with the 2286 AT), but many users will eventually need additional memory. Many IBM add-on memory boards are available, and some of these have additional functions.

The type of board I have found to be particularly useful is called a "multi-function board". These boards have an IBM serial port, parallel port, a game port (optional), a real-time clock/calendar (needed for XT's only), and some amount of RAM. By adding this type of board to the IBM side of your system, you get not only the additional RAM but also all of the IBM I/O you need. You have used only one slot for all this ability.

MEMORY

Again, make sure you purchase a board that will let you add a large amount of RAM; 6 MB is a typical amount available on some of the IBM-type boards. Also, if you have the A2286 AT Bridgeboard, do *not* purchase an 8-bit XT-type multifunction/RAM board. It will not support 16-bit data transfers and will result in much slower system performance. The AT-type boards cost a few dollars more but are well worth the additional cost for the increased system performance.

A2088 XT Bridgeboard owners should note that AT-type boards will *not* work in their system. You should try, if possible, to purchase a board that supports both Expanded Memory through the Lotus-Intel-Microsoft standard (LIM 3.2 or 4.0) and Extended Memory. Articles in IBM-PC magazines often spell out the differences between the two types of memory, so I will not go into detail here except to say that some of your applications may require Expanded Memory, and others will require the more standard Extended Memory. Try to get support for both.

INPUT/OUTPUT

The I/O capability of the multifunction board is extremely useful. Without it, you have no serial I/O capability from the IBM side of your system and only software implementation of parallel I/O for LPT1 (which also causes you to lose Amiga parallel I/O until you run the LPT1 program again). The IBM serial capability can be extremely important for some users (see "Fax/Modem Capability" below), and the separate IBM parallel capability is just plain convenient. Most users find it faster and easier to use a $10 A/B switch box to share a printer between the two systems than to use the LPT1 software. For instance, I have a print buffer/switch connected to my system that allows me with the push of a button to switch between the two systems (Amiga and IBM Bridgeboard) and two printers (draft dot-matrix and letter-quality daisy wheel).

3. When you add drives to the IBM side of your system, add them externally.

There are three ways to add drives to the IBM side of your system: (1) hard disk and controller on one card, (2) Amiga internal drive bays for hard and floppy drives, and (3) an external enclosure. Option 1 uses a slot unnecessarily, because on most hardcards, the hard disk will hang over the adjacent slot. There are some slim hardcards that use only one slot, but they are usually more expensive. The second option takes away the Amiga drive bay(s) for any future Amiga expansion. Yes, there may be Amiga expansion in your future — an additional Amiga hard disk, internal tape cartridge, additional 3.5" AmigaDOS floppy, etc. The best solution to adding drives to the IBM side for most people is Option 3.

I realize that one of the attractions of the Bridgeboard in the first place is that both the Amiga and IBM systems are in one case, thus saving desktop space. But, hey, you're a power user, right? Another small box to the side can look impressive. Anyhow, the cleanest, most flexible solution is to use an external drive case with its own power supply to house additional IBM drives. You can purchase a 60W drive enclosure that will house two 5.25" or 3.5" drives for about $100. This will allow you to keep your 5.25" IBM floppy in the Amiga and put a hard disk and a 3.5" floppy drive in the enclosure. Although I have never seen a three-bay external drive enclosure, an alternative to the three-bay enclosure is the mini-tower case that vendors sell for a complete IBM system. These cost even less than a two-bay external enclosure (typically $90), usually have four drive bays for expansion, and usually have a much bigger (200W or so) power supply.

Using one of these small footprint cases allows you to also move your 5.25" IBM floppy drive over to the external case, freeing up even more expansion room in the Amiga case for other Amiga drives. If you keep the enclosure close to your Amiga, you can use ribbon cable to connect the drives. My system uses three-foot ribbon cables and operates just fine, although you wouldn't want any more stretching than that. The cables may have to be custom-made (you can either do this yourself or have a dealer do the work), but they're very inexpensive and easy to construct.

HARD DRIVE

For optimum performance you should have a separate hard drive for the IBM side of your system. The Bridgeboard is not very fast anyhow, and using the Janus software to have an Amiga hard drive partition for MS-DOS slows the system down. Going the other way, using a partition on an MS-DOS hard drive for AmigaDOS is somewhat slow, although acceptable. The only drawback is that the Bridgeboard has to boot up before you can use the AmigaDOS partition, possibly taking up to two minutes. Adding a hard drive to the IBM side of your system is very straightforward, and there are again numerous articles in IBM-PC magazines that give plenty of detailed information on how to accomplish this, including what type of drive and controller to get.

Most of the newer hard drives are half-height which saves space (these should be used). The only caveat for Bridgeboard owners is to stay away from hard drive controller cards that also include a floppy drive controller on the card. The floppy controller, in most cases, will conflict with the Bridgeboard internal floppy controllers, and some of the controller cards do not allow you to disable their floppy controller.

For A2088 XT Bridgeboard owners, the easiest way to add a 3.5" floppy drive is to connect an AmigaDOS 3.5" external drive to the connector on the back of the Bridge-

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board card. This gives you a 720K drive (which is all that is supported on an XT) and works very well. For the greatest degree of flexibility, A2286 AT Bridgeboard owners should purchase a 1.44M 3.5" IBM-type floppy drive. These will read and write both 720K and 1.44M floppies, and are available for as low as $75.

If you have trouble after adding a 3.5" floppy, you can perform some simple checks before heading back to the dealer. If the floppy runs continuously (the LED is always on), make sure that the ribbon cable is not connected backwards at the floppy drive connector and that the crimp connectors on the ribbon cable are attached correctly (each small internal prong in spanning only one wire). If you have trouble with drive addresses, you may want to check to be sure that you have a twist in the ribbon cable to the floppy if required and that the jumper on the floppy is set correctly to select drive 0 or 1.

4. When you add a modem to your system, add an external modem.

There are two reasons to add an external rather than an internal modem: (1) It saves expansion slots and (2) It gives you the flexibility to use the modem with either the Amiga or the IBM side of your system.

An external modem will cost a few dollars more than an internal one, and you will need an A/B switch box and 25-pin RS-232C cable to be able to switch between the Amiga side of your system and the IBM side of your system. The extra cost is more than worth the extra space-saving and flexibility.

Some may argue that since the Amiga side is the best of the two computers in your system, you should never use the modem on the IBM side. The available Amiga telecommunications software is much better than any IBM programs I've seen. The only problem is that there are some situations where you may have to use the IBM side for your serial communications. The Prodigy network is one example. Those folks still don't have software for the Amiga, and if you want to use the network, you have to access it with the IBM side of your system. PC-Link is another example, and on one of the mainframe connections I have to use special software that is only available for MS-DOS.

For all other work, I'm able to use the Amiga side for serial communications of all types, even IBM-based electronic bulletin boards. I can download MS-DOS files on the Amiga side of my system and, using the Janus software AREAD command on the IBM side, I can copy them over to use them with MS-DOS. Purchase at least a 2400 baud modem; Hayes compatibility is a *must*. Don't try to save by getting a slower 1200 baud modem. You'll regret it.

FAX/MODEM CAPABILITY

For those users who need fax/modem capability, you may have to use an internal modem (I've never seen that capability exist externally). Usually a card must be placed in an expansion slot. In the future, vendors will likely be providing fax functions as software add-ons to existing modem capability. Already some fax software programs allow you to at least receive a fax over your modem and store it on your computer as a graphic image without requiring any add-on cards.

5. If you must add a mouse to the IBM side of your system, add one that plugs into your serial port, not a bus-type mouse.

The new Janus AMOUSE software program provides the capability to use your Amiga mouse on the IBM side of your system. It emulates a Microsoft serial port mouse, and so far I've had absolutely no compatibility problems with it. However, if you decide that you must have an IBM-type mouse in addition to the Microsoft emulation performed by the Amiga mouse, purchase a serial port mouse. A bus mouse comes with its own card (you lose another expansion slot). Some multifunction cards have two serial port capability built-in or as an add-on option, or you can again use an A/B switch box to switch between your IBM serial mouse and IBM modem link (after all, most IBM communication programs don't use a mouse well, if at all).

6. A2286 AT Bridgeboard owners should have one (or both) of the 8-bit expansion slots converted to 16-bit expansion slots.

Commodore left the two left-most IBM expansion slots on the Amiga motherboard as 8-bit slots (one edge connector each), while the other IBM slots are 16-bit slots (two edge connectors each). This was not a money-saving move on Commodore's part, but was done to allow for some manufacturers' 8-bit expansion boards that have physical interference problems with the second edge connector. This is also typical of motherboards on AT clones, and some AT clone owners will use one or more 8-bit boards in their system. However, as A2286 AT Bridgeboard owners expand their system, they may come to the point where they'll need edge connectors installed to make the slot a full 16-bit slot. This cost me about $10 each at my local Commodore dealer.

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SUMMARY

If you follow these guidelines and add all the above-mentioned items to your system, you will have three total Amiga and/or IBM slots for expansion if you have an A2286 AT Bridgeboard or four total Amiga and/or IBM slots for expansion if you have an A2088 XT Bridgeboard. Your system can now have a 3.5" AmigaDOS floppy drive and two AmigaDOS hard drives, a 5.25" and 3.5" MS-DOS floppy drives and a MS-DOS hard drive, 6 MB RAM each on the Amiga side and on the IBM side of the system, and finally, switchable mouse, printer, and modem capability for either the Amiga or IBM side of the system.

Now that you have a good base system, what are you going to put in those extra slots and two extra drive bays? Maybe another AmigaDOS floppy drive, another MS-DOS hard drive, a super VGA card for the IBM side, a network card for the Amiga side, an accelerator card for ...

•AC•

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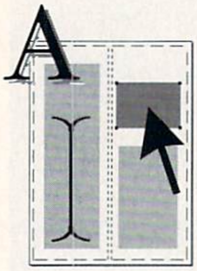
The Big Three In DTP

by Richard Mataka



DESKTOP PUBLISHING (DTP) IS THE ART of intermixing type with graphics in such a way as to best capture—and hold—a reader's eye. While this may be a greatly simplified view of what this fascinating field involves, it does give you some idea of what it is desktop publishers do. Not always apparent, however, is the painstaking creative work that goes into producing the works of art that you read!

Like anything else, a rewarding venture into the field of desktop publishing calls for some preliminary investigation. The would-be desktop publisher must first decide what features and capabilities his or her "perfect" DTP software package should have. Just as important, of course, is the way those features are implemented from program to program.

Among the most critical areas to investigate in DTP programs are graphics support, type styles, type manipulation, page layout flexibility, printer support, and overall ease of use. Generally, a DTP package that rates well in all of these areas is capable of creating professional quality papers, flyers, advertisements, or magazines.

While Professional Page was the first high-end DTP product designed for the Amiga, today there are three "heavyweight" contenders in the Amiga DTP marketplace—Saxon Publisher 1.1 from Saxon Industries, Professional Page 2.0 from Gold Disk, and PageStream 2.1 from Soft-Logik. This article will provide an overview of the various features of the programs and then briefly highlight the strengths and weaknesses of each.

Saxon Publisher 1.1

SAXON PUBLISHER "represents a new standard in page layout software for the Commodore Amiga", according to its manual. But while Saxon has quickly established itself as a major player in the Amiga market, is it radically different from other DTP programs currently available?

REQUIREMENTS

Saxon Publisher runs on any properly configured Amiga having 1 meg of memory or more. As always—and especially if you intend to produce documents with very complex drawings—the more memory, the better.

If yours is a floppy-based system, you will need at least two floppies to fully utilize Saxon Publisher. The display output of this program is in the high-resolution mode and cannot be changed. On a standard NTSC monitor, you will see the flicker that normally accompanies this mode of operation. Saxon Publisher V 1.1 provides direct support only to PostScript-compatible printers or photo typesetters; V 1.2 will support all preferences printers.

INSTALLATION

Installing Saxon Publisher to a floppy or hard drive is a simple task. It entails booting your system normally, inserting the original program disk into your floppy drive, opening the disk and moving the Saxon Publisher icon to your destination. It is really as simple as copying a file from one disk to another.

MANUAL

The 258-page ring-bound program manual now packaged with V 1.1 of this software is a significant improvement over the original Saxon manual. It is divided into six sections: Introduction, Usage, Tutorial, Specific Reference, Helpful Information, and Appendices and Index. The reference section is nicely organized, with each main menu thoroughly explained. Menus and submenus are clearly defined so that referencing them within the manual is a simple task.

USER INTERFACE

Saxon Publisher's user interface is intuition-based, with all of the program's functions controlled from either the pull-down menus or the side bar. Requesters that appear when you access a menu, like the "Page-Move-To" item, allow you to specify exactly what you wish to do within Saxon Publisher.

Looking at the major menus and side bar, you'll notice that some options are always active, while others depend on the mode currently enabled. There are four major modes of operation in Saxon Publisher—Cursor, Paragraph, Drawing Tools, and Text. Select the mode of operation by clicking on one of the gadgets located in the upper left corner of the screen.

In Saxon Publisher, everything you wish to place on a page must be arranged within a defined box. When beginning a new document, you must first add a new page. Once that has been accomplished, the next step is to define the page layout. This includes not only the areas in which headings and text are to be placed, but also the areas where graphic images will be placed. Detailed instructions are provided in the Saxon Publisher tutorial for using one of the provided templates to create a sample *Saxon Times* newsletter.

TUTORIALS

The first tutorial serves as the basic learning tool during creation of the *Saxon Times*. It gives you a good overall grasp of how the program operates, and teaches you all of its major functions. This and the more advanced tutorials involve the creation of pages and boxes, entering text from the keyboard, creating and altering type styles, scaling and rotating text, using drop shadows and colors, importing images, creating structured drawing, and assigning objects to function keys. While this may sound like a lot of information to digest, each tutorial is presented in a step-by-step approach that makes learning the program a relatively simple task.

One interesting feature of Saxon Publisher is its ability to assign pages to function keys, and also its simple approach to the assigning of type styles. Take a look at Figures One and Two on page 40; they give you a good idea of the type style control that you have in Saxon Publisher. From these two requesters you can set margins, rotate, slant, scale, control drop shadows, define outline texture, and define the colors used in your fonts. And everything is really simple to operate, once you become familiar with the software. It's like one, two, three, and you're done!

Working through the more involved tutorials, you will come to master all of the basic functions of Saxon Publisher, and also get an excellent feel for the program's power and flexibility. It took me

Saxon Bids For DTP Supremacy With V 1.2

Saxon Publisher version 1.2 promises some major new features, such as:

- **Direct support for ProWrite and excellence!**
- **Support for Compugraphic and Adobe Type 1 fonts from Professional Page and PageStream and any other PostScript downloadable font.**
- **Manipulation of Adobe Type 1 fonts on screen.**
- **A *true* PostScript screen preview which is 100% accurate, to the limitation of the screen display. You'll actually be able to see moire patterns on screen!**
- **Improved APEX color separation technology.**
- **Support for ALL preferences printers, including color printers.**
- **Proprietary compression algorithms for faster output at service bureaus.**
- **Image conversion utilities which allow the conversion of PostScript files into IFF, EPS, and DR2D formats.**

The most exciting part of the upgrade is a powerful and flexible PostScript interpreter *module*, SaxonScript Professional. This PostScript interpreter is a monster. The list of features in this module alone make Saxon Publisher 1.2 an attractive choice. Features include the ability to print color comps on *any* preferences color printer. Printing non-PostScript files on PostScript printers is simplified. Exciting possibilities also abound with open architecture which allows customization by programmers. And the features go on!

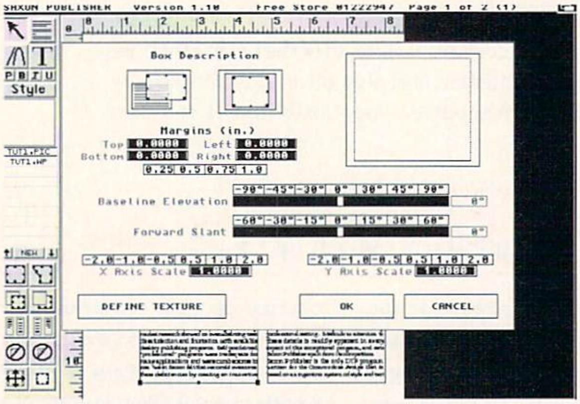
Saxon Industries also plans to make SaxonScript Professional available separately.

Once this upgrade ships, it will definitely up the ante in the Amiga DTP game! With that in mind, be sure to look for a complete overview and review of Saxon Publisher 1.2 in an upcoming issue of AC! As of this writing, version 1.2 is scheduled to ship by early June.—*Ernest P. Viveiros, Jr.*

approximately one-and-a-half hours to complete the basic tutorials, and three hours to complete the advanced tutorials.

Professional Page 2.0

PROFESSIONAL PAGE 2.0 "is a powerful, versatile, and easy-to-use desktop publishing program. It provides all the flexibility and creativity necessary to produce graphics-intensive page-by-page style documents, such as newsletters, ad designs, brochures, and educational material." As the first high-end DTP program for the Amiga, the first for the Amiga to offer Pantone color support, and the first DTP package for *any* microcomputer to offer full four-color separations, Professional Page early on established the standard by which all other DTP programs in the market would be measured. Is Professional Page still the standard-bearer in Amiga DTP?



SAXON PUBLISHER Version 1.10 Free Store 01222947 Page 1 of 2 (1)

Box Description

Margins (in.)

Top 0.0000 Left 0.0000

Bottom 0.0000 Right 0.0000

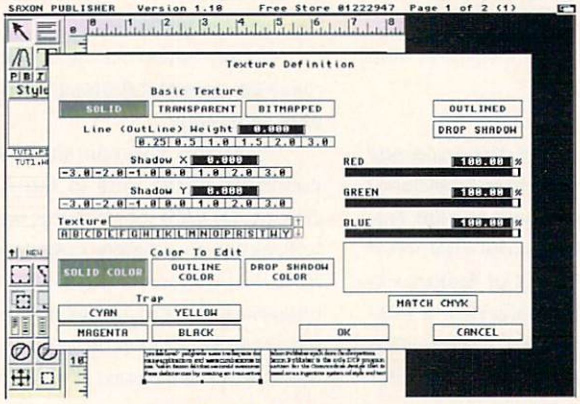
Baseline Elevation 0°

Forward Slant 0°

X Axis Scale 1.0000

Y Axis Scale 1.0000

Figure One: With Saxon Publisher, you can set margins, as well as rotate, slant and scale fonts.



SAXON PUBLISHER Version 1.10 Free Store 01222947 Page 1 of 2 (1)

Texture Definition

Basic Texture: SOLID

Line (OutLine) Weight 0.000

Shadow X 0.000

Shadow Y 0.000

Color To Edit: SOLID COLOR

RED 100.00 %

GREEN 100.00 %

BLUE 100.00 %

Figure Two: Saxon Publisher also allows for the definition of drop shadows, outline textures and colors in fonts.

REQUIREMENTS

Professional Page is designed to work on any properly configured Amiga running AmigaDOS 1.3 or higher. Again, you need at least 1 meg of memory to use the program, and the more memory you have, the better. Any Amiga-compatible monitor can be employed when using Professional Page; however, the default video mode for the program is interlaced high resolution (600 x 400). There is an option for setting the display in non-interlaced mode (600 x 200) that you can employ during startup.

You need at least two floppy drives, or one floppy drive and a hard drive, to run Professional Page properly. To print documents that you create, you can use a PostScript-compatible printer, a typesetter, or any AmigaDOS-supported dot-matrix printer.

Professional Page is supplied on three diskettes. The Program Disk contains the actual Professional Page program with the supporting data files. The Fonts & Utilities disk holds the tutorial material, sample page layouts, and graphics. The CG Fonts/Article Editor disk contains Compugraphic fonts and the Article Editor, used to edit text. The Article Editor allows you to flip back and forth between Professional Page and the editor for updating or changing documents. Also on this disk is a comprehensive spell-checking program.

As an added bonus with Professional Page 2.0, you also receive a VHS videotape. This tape introduces you to Professional Page and provides you with a basic understanding of the program's operation.

INSTALLATION

The installation procedure for Professional Page involves a simple process that is well detailed in the user manual. Instructions are provided for installing the program from disk to disk, copying the program from the CLI (Command Line Interface), or installing the program to a hard drive.

You may need to modify your startup-sequence in the "s:" directory. The reason for this is twofold. First, you need to execute the startup program called "PPageStartup." Next, you need to "assign" the directory in which the Professional Page program is located. The details of these modifications are also covered in the user manual.

MANUAL

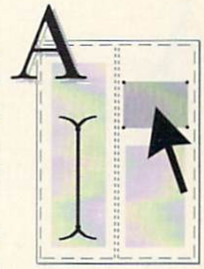
The Professional Page 2.0 User Reference Manual is highly illustrated and quite detailed, with 268 pages divided into 15 chapters. You can further divide the user manual into four main areas—Introduction, Tutorials and Concepts, Reference, and Appendices.

The introduction provides you with some background information on the format of the manual and advice on getting started with Professional Page. Tutorials guide you in creating sample documents. Most of the manual deals with references to the program functions, with illustrations and lots of other details. It's a simple matter to flip back and forth between Index and Reference to locate information. All functions are defined and many examples are provided. The last area consists of the appendices, glossary of terms, and a comprehensive index.

USER INTERFACE

The Professional Page user interface is intuition-based; all of the program functions are controlled either from pull-down menus or the side bar. Many of the menus contain submenus that allow you to specify detailed program activities.

Some of the options appearing on the major menus and the sidebar are always available, while others are active depending on the mode in which you're operating. There are what I consider to be six modes of operation within Professional Page: Box Creation, Null Pointer, Grouping, Movement, Text Deletion, and Drawing. Selecting the mode of operation is simply a matter of clicking on the gadget along the right side of the screen.



Also on the right side of the screen is the Page Position gadget and the Box Control tools. The Page Position gadget allows you to move the viewable area of the screen in which you are working. This is especially valuable when you have magnified the page and need to see another area of that same page. The Box Controls include tools used to put boxes front to back, link boxes for text, unlink boxes, and move between boxes that you had previously linked.

In Professional Page's page creation mode, all elements are placed on a page within the confines of a predetermined box. When you first define a page, a default box is automatically created. Boxes can be sized or moved as desired using the Null Pointer tool, and any number of boxes can be placed on a screen.

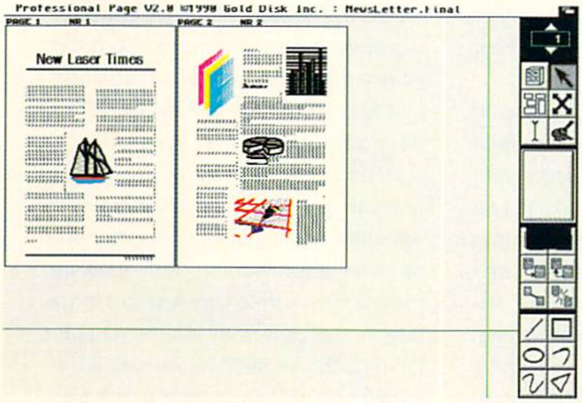

Professional Page V2.0 ©1990 Gold Disk Inc. : NewsLetter.Final
PAGE 1 NR 1
PAGE 2 NR 2
New Laser Times
1

Figure Three: Professional Page's tutorial instructs on the development of the *New Laser Times* newsletter.

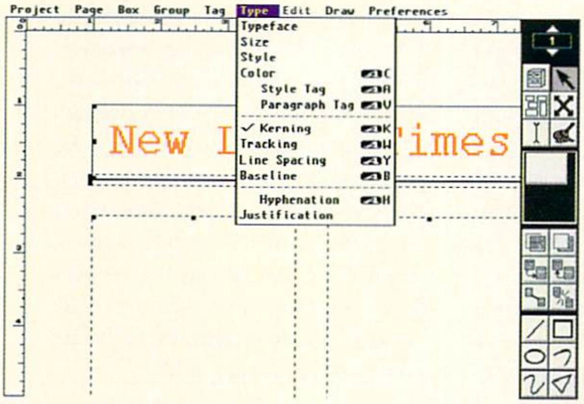


Figure Four: The Type Menu is a key element in the Professional Page program.

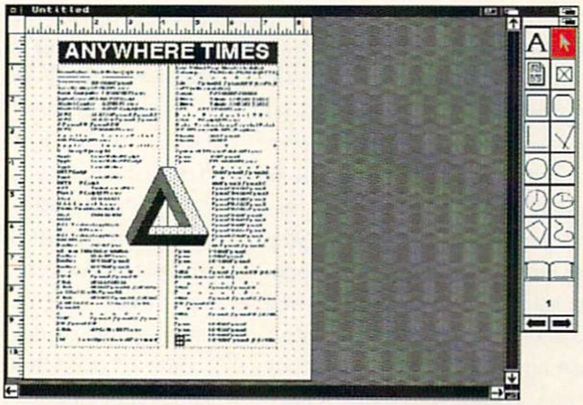


Figure Five: PageStream's tutorial also guides the user through the construction of a newsletter.

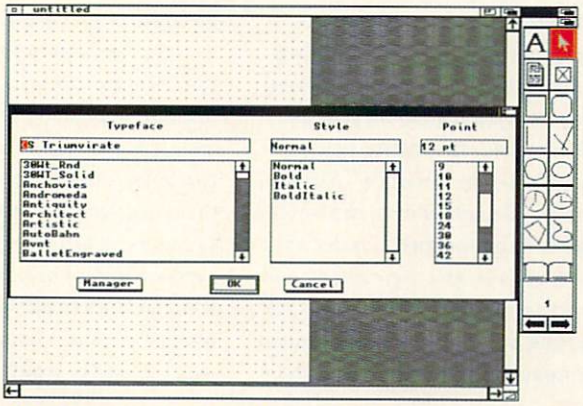

Typeface: S Triumvirate
Style: Normal
Point: 12 pt

Figure Six: Font style and size selection in PageStream.

TUTORIAL

The single tutorial provided in Professional Page is used to create the *New Laser Times*, a newsletter (see Figure Three, page 41). But by following this tutorial closely, you will quickly learn many of the basic operations of this DTP program, such as box creation and deletion, column definition, grid usage, object grouping, text linking, text importing, graphics importing, and template use.

Professional Page is a straightforward, easy-to-use program. All of its major functions are supported either through menus and submenus, or directly by keyboard commands. Moving from option to option within the program is really a simple matter.

It's safe to say that the most important menu of all in the Professional Page program is the Type Menu (see Figure Four, page 41). From this menu you can control all of the type styles and attributes that can be used in the program. The tutorial takes you through the use of many of these menu items, while the remainder are defined within the refer

Traditional vs. Desktop Publishing

Prior to the desktop publishing revolution of the 1980's there was no alternative to traditional "mechanical" publishing. As an art that grew and developed over centuries, traditional publishing came to require the efforts of many highly skilled professionals along nearly every step of the process. Of course, that also meant it came to be very time consuming and costly.

The traditional publishing process began with the writing of text, done in recent times on a conventional typewriter. The resulting text "drafts" were edited and corrected manually until they were perfect, at which point they were turned over to a typesetter (who usually worked for a company separate from the publishing company) who had to manually retype the text into a typesetting machine. The output of this was long columns of type—called "galleys"—which had to be proofread and corrected again. The galleys were then forwarded to the art director or designer back at the publishing company for final layout, which involved pasting the galleys onto art boards.

Meanwhile, the artists and photographers would produce graphics for the art department to assemble. These had to be enlarged or reduced to the correct size with a stat camera, and each photo had to be "screened", or turned into a pattern of dots for proper color reproduction during the four-color printing process. Then the graphics had to be pasted onto the art boards. Finally, the finished art boards were sent to the printer for platemaking and printing.

In traditional publishing, a great deal of time, manual labor and money went into the repetition of many of these steps. Plus, large capital expenditures were necessary for the machinery of typesetting, phototypesetting, and other related services.

Of course, the 1980s proved to be the dawning of a new age in the world of publishing. This new age began with the introduction of the PostScript language. The subsequent introduction of PageMaker launched the birth of a whole new industry that quickly became known as desktop publishing. Today, all the traditional publishing steps mentioned above can be accomplished by only a few people, in a fraction of the time, at a more realistic cost than that of just a decade ago.

One person can do everything—from concept to layout—with a good desktop publishing program. No special skills are required to produce professional-looking documents. Today, there are many diversified supporting products to aid and guide you in the creation of your own printed products, whether it's ads, pamphlets, magazine articles or even books. There are a wide variety of word processing programs which even include spelling checkers and dictionaries for those of us less skilled in the English language. These many program features enable you to edit and reedit in a matter of minutes—or even seconds!

Many drawing programs are also available to assist with line art and special effects. Scanners and digitizers are devices used for digitizing photographs for computer use. Even the novice artist can create beautiful and interesting products with practice. The possibilities are virtually endless.

These new electronic publishing methods are enormously flexible. Even a final layout can be corrected, changed or redesigned without having to be redone from scratch, as was to a large degree the case with traditional publishing. This in itself represents a tremendous savings in time and labor, which of course greatly reduces the operating costs of publishers today.

Everything has its disadvantages, even electronic publishing. However, as the technology steadily progresses, those limits become less and less obvious. The biggest disadvantage is the cost of setting up a workable system. But even that cost has come down fairly dramatically in the past 5 years. In any case, you can quickly recover these expenses by producing professional quality documents that enhance your profit potential.—*R.M.*

ence sections of the manual. The top area of this menu is the area in which you can define the typeface you wish to use, the size of the typeface, the style (bold, italics, etc.), and the color of the type.

Color, you ask? Yes, colors can be defined either as RGB values or as Pantone values. Both are fully supported in Professional Page; this support is a distinct advantage when it is necessary to provide color type in a document.

The tutorial, in conjunction with the videotape, provides an excellent introduction to Professional Page. In about two hours, you gain a clear understanding of the fundamentals of the program by watching the tape and following step-by-step instructions.

PageStream 2.1

OF ITS OWN DTP PROGRAM, the Soft-Logik manual says the following: "Groundbreaking products such as PageStream 2 are forcing the world to take notice of the Amiga as a serious platform for graphics and publishing." Does this program accomplish its mission?

REQUIREMENTS

PageStream 2 is also designed to work on any properly configured Amiga computer system running Amiga DOS 1.3 or higher. Any Amiga-compatible monitor can be employed when using PageStream; however, the default video mode is the interlaced high resolution. There is an option to start the program in the non-interlaced mode for those who do not wish to see the on-screen flicker that occurs in the interlaced mode.

You need at least 1 meg of memory to run PageStream, but more is better. While the QuickStart Guide advises that you need one floppy drive, I would recommend two if yours is a floppy-based system. Better still, I would suggest that a hard drive is a necessity in order to store all the PageStream files, including document files.

PageStream 2 supports most printers. Special drivers are provided for each printer, as is a preferences printer driver so that you can use the Amiga printer drivers as well. This means that you have not only PostScript and typesetter printing capabilities but also any type of dot-matrix printer capability.

INSTALLATION

Installation of PageStream 2 is thoroughly detailed in the QuickStart Guide. Instructions are provided for both floppy-disk and hard-drive installation. Whichever method you choose, it is recommended that you first back up the distribution disks and place the originals in a safe location.

There is also a section which details the procedures for customizing PageStream 2. In this area you are advised how each directory is used in the PageStream 2 directory structure. Information on the proper configuration for printers, import/export modules, spelling and hyphenation dictionaries, and font directories can be found in this section. This is useful information and should be read closely so that you can fully understand the program setup.

MANUALS

The 58-page QuickStart manual contains the installation procedure, tutorials, and an invaluable troubleshooting guide. The user manual is extremely detailed and easily provides oft-needed references to all operations within the program.

Included in the user manual are explanations of text manipulation, the different types of graphics that can be imported and the availability of on-screen drawing tools, the concept of elements (anything placed on a page), page layout tools, and document printing.

You are also instructed on how to set paths, use program defaults, employ measurement systems, define macros, set greeking, and (most important) manage fonts. The appendices contain a glossary, keyboard equivalents for menu commands, special characters that PageStream supports, font samples, and an in-depth index.

Overall, this latest manual is a great improvement over previous PageStream manuals.

USER INTERFACE

As in Saxon and Professional Page, the PageStream user interface is intuition based. All of the program functions are controlled via pull-down menus, keyboard commands, or the side bar. However, unlike Saxon and Professional Page, there are no submenus in PageStream. When you select a function that needs additional information in PageStream, you are presented with a requester box to type in or select the additional information needed to complete the function.

The approach to DTP that drives this heavyweight package differs from that of either Saxon or Professional Page. In both of those programs, all operations that you wish to perform on a page are done within defined boxes. As I've already noted, PageStream works with "elements". Here, elements are not boxes; rather, elements are virtually *anything* that can be placed on a page. For example, not just text columns, but also bitmapped images, object drawings, and PostScript images can be placed on a page, and each placed item is considered an element. Additionally, you can type directly on a page, and that area is automatically defined as another element. It is not necessary to first define a box for the placement of text, as it is in the other programs. In the tutorial presented in the QuickStart Manual you create, just as in Saxon Publisher and Professional Page, a one-page newsletter (see Figure Five, page 41).

TUTORIAL

There is only one tutorial in PageStream, but it does teach you all of the fundamentals needed to operate the program. You learn about creating documents, drawing objects, sizing elements, entering text, formatting text with tags, and modifying page elements like fill, style, and color. As this tutorial only scratches the surface and is sometimes confusing, a bit of patience and perseverance helps in enabling you to create a professional document, once you have mastered the program.

The learning curve for PageStream is much larger than that for either Saxon Publisher or Professional Page. A major reason for this may be attributed to the implementation of those requesters, rather than pull-down submenus. Each requester contains a number of settings that allow you to customize any page. Special text effects can even be created, but achieving such effects does require a great deal of experimentation and patience. But don't let this deter you! PageStream really is a very powerful program with its Compugraphic and Adobe PostScript support.

Type style support is one of PageStream's major strengths. Three different type style formats are supported directly: Soft-Logik fonts, Compugraphic fonts, and Adobe PostScript Type 1 and Type 3 fonts. So what does this mean? For one thing, an open door to all of the public domain Type 1 fonts that are available. I have found and tried approximately 70 public domain Adobe Type 1 IBM fonts and have not had a single problem. So far, this is the only program available that allows the use of Adobe Type 1 fonts.

As with any strength, there is a corresponding weakness. In PageStream it's font management. Refer to Figure Six, page 41, to see one of the font requesters. This particular requester allows you to choose fonts and sizes. A second requester is the font manager requester. When adding new fonts, you must go to the font manager requester and manipulate which directories are to be added. Once this is done, you can add the fonts you have chosen as defaults in the program or only for a session. Although a bit confusing until you have worked with it for awhile, the font management system in PageStream is very powerful.

PageStream's tutorial and reference manual together provide you with all the information necessary to use the program effectively.

A Little One-On-One-On-One

GRAPHICS SUPPORT

To this point, there has been very little discussion of graphics support. So now, let's look at the strengths and weaknesses of each of these heavyweight DTP programs when it comes to graphics importing and printing.

All three programs support the standard IFF or structured-drawing graphics importing. They also import the 24-bit IFF ILBM pictures, and display them in black and white on your monitor. Additionally, all support the standard importing of graphics, such as IFF drawings from paint programs, clip art, Encapsulated PostScript (EPS) drawings, ProDraw Clips, or Aegis Draw format pictures. All three programs are also equals in their ability to import the standard-type graphic images.

However, when it comes to the non-standard formats, PageStream has the edge. It supports the importing of not only Amiga-formatted pictures, but also Atari ST, Mac, and IBM format images. This means you have the ability to directly import these drawings into PageStream—if the drawing or picture is on an Amiga-formatted disk—and produce your document without having to translate the drawing from one picture format to another picture format. This is an advantage and time saver to the DTPer because there is a wealth of public domain and professional-quality clip art available for the IBM and Mac that can be used.

Displaying color on the screen in the DTP programs is a limitation of both the Amiga computer and the DTP programs. Each program operates in the interlaced high-resolution mode. In this mode a maximum of 16 colors can be placed on the monitor (Professional Page allows for the representation of over 1000 colors on screen via dithering; Saxon Publisher supports dithering as well, allowing one to reproduce on screen any of 262,144 different color hues). Each program will show you some color when it is controlled from within the program. However, when importing bitmapped images, they are displayed in black and white. While it is inconvenient not to see the actual drawing or picture in color, we must understand that it is a limitation of the technology and is something that will be corrected in time. Maybe with the advent of the new 24-bit video boards this limitation will be overcome.

Outputting your documents either to a locally attached printer or sending them to a service bureau is also a simple matter for all three programs. Since all of the programs support PostScript, they are equal in that matter. Saxon Publisher V 1.1's sole support of PostScript printers has so far held it back from wider usage, but that disadvantage will vanish when V 1.2 ships. Professional Page and PageStream both support dot-matrix printers directly.

Overall, graphics support in each of these programs is excellent. With PageStream, you import a graphic image to a separate screen on which the image can be cropped and copied to its final destination. Professional Page offers the same features, however the operations can be performed on the Art Board or directly on the page. Saxon Publisher, at this time, is clearly more limited in its graphics capabilities than either Professional Page or PageStream.

TYPE STYLES, FONTS, & TEXT EDITING

As mentioned, PageStream is the clear winner here. With Adobe Type 1 and Type 3 support, you have a multitude of public domain and commercially available fonts from which to choose. However, in speaking with Saxon Industries and Gold Disk, I have learned that future releases of their software packages will also support Adobe fonts. When this occurs, PageStream will no longer enjoy the advantage of being the only DTP program on the Amiga market to support Adobe fonts.

Professional Page uses only the Compugraphic or Amiga-format fonts. Over 180 Compugraphic fonts are available for use with the program. Also, you can acquire certain Amiga fonts and use them to expand your font support in Professional Page.

In V 1.1, Saxon Publisher uses its own special font format, for which there are no additional fonts available. Again, V 1.2 of Saxon Publisher does provide support for other types of font formats.

All three programs offer style tagging to varying degrees. I consider Saxon Publisher to be the superior program in this area, with PageStream and Professional Page being roughly equal in the same regard. In terms of text editing, while all three offer this feature, I would have to place Professional Page at the top of the list.

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MEMORY AND SPEED

When we talk about needing as much memory as possible for DTP, it is not that the programs themselves need a lot of memory. But once you begin to import pictures and use different fonts, memory is consumed rapidly. I recommend a minimum of 3 megs of memory if you're going to be doing any complex documents.

Round Two?!

Color separations are a critical element of many professional DTP projects. Find out how the heavyweights rate in this important area in an upcoming issue of AC!

As for operational speed, PageStream is the slowest to load and perform its functions. In the middle is Professional Page, and the quickest is Saxon Publisher. If all that you have is a basic system—68000 running at 8 MHz like an A500—

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you can use these software packages effectively and create some beautiful documents. However, the time needed to create documents can pass very slowly. An accelerator board of some type or an Amiga 3000 is a necessity if you are serious about your DTP work. After all, time is money, and you do want to create your professional documents as quickly as possible.

SUMMARY

Each of these programs has its unique features and attributes. For professional work, I prefer PageStream 2.1 since I consider PageStream's capacity to import graphics directly from other computer platforms, its ease when manipulating graphics, as well as its ability to use Adobe Type 1 IBM fonts as strong points in a professional application. Remember—there is a corresponding complexity that can make learning this program somewhat challenging. But PageStream 2.1 really is a program that is capable of making the rest of the industry view the Amiga as a professional DTP business machine.

For intermediate level DTP projects, I have found that Professional Page 2.0 is a workhorse. It proves itself by rendering pages at a reasonable speed and has enough flexibility to meet a majority of my own DTP needs. It is simple to learn and creating documents in it is a pleasure. Professional Page lives up to its advertising as a powerful, versatile, and easy-to-use desktop publishing program.

When I have a need to create documents with special text effects, I use Saxon Publisher. It is in this area of text manipulation that Saxon Publisher shines. While I wouldn't go so far as to claim that it has yet set a new standard, it does offer a tremendous amount of potential. I would not rule out using Saxon Publisher as a professional DTP program; it is a program that should only get better as new versions are released.

Which program is for you? Well, if you are serious about desktop publishing, you might not want to stick with just one program. Then, the decision as to which one to use on a job would depend on the exact nature of the work that you have been asked to complete. While I know that this is not always a viable option, I do recommend the purchase of more than one of these three programs.

To be sure, with *any* of these three heavyweight packages in your arsenal, you will be able to complete virtually any DTP project quickly and professionally. •AC•

A freelance writer for the past 16 years, Richard Mataka has been involved in microcomputing since 1976. In 1989, Mr. Mataka founded GMR Media Consultants, a small business specializing in Amiga desktop publishing. Please write to Richard Mataka c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

Product Information

Professional Page 2.0
Price: $395.00
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5155 Spectrum Way
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Mississauga, Ontario
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Saxon Publisher V 1.1/1.2
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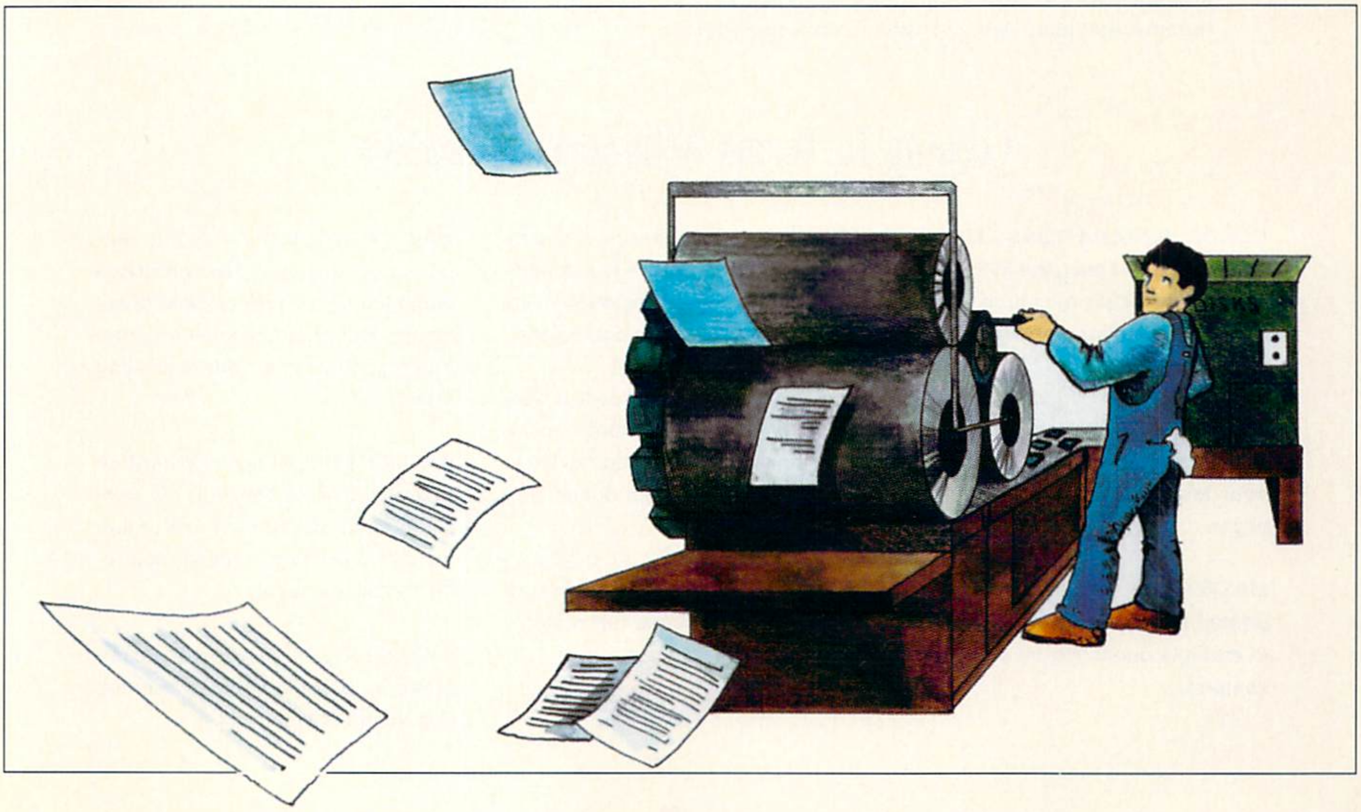
THE AMIGA DESKTOP PUBLISHER'S SURVIVAL GUIDE TO

SERVICE BUREAUS

by John Steiner

Desktop publishers ultimately want the best quality printed output for their money. For DTP professionals, this means a major investment in a high-performance laser printer. And even then, they may find that the generally excellent output from a laser printer is still not good enough for their most important projects. Other desktop publishers do not do enough publishing work to justify the expense of a laser printer to begin with. They learn to rely on dot matrix output for the majority of their documents. Yet, there are times when these publishers also desire or require top-quality output. If you fit into either of these groups, or otherwise require final output of a higher quality than your own document printer can provide, you will need to shop around for, select, and work with a desktop publisher's service bureau.



Within the printing industry a lot of terms are used interchangeably, thus making the printing process sound more complicated than it really is. For example, if I refer to a "printer", I can be talking about a piece of equipment, or a person who runs a printing press! To simplify my discussion here, therefore, I will only use potentially confusing terms in a single context (see "Coming To Terms With Service Bureaus" below).

> With the help of a few utility programs, your Amiga DTP documents can be printed with no problem by most service bureaus.

A relatively recent phenomenon, desktop publishing service bureaus began appearing in conjunction with the rise in popularity of the Macintosh computer as a desktop publishing solution. A service bureau offers to create master documents in high-resolution or laser-quality output on either film or plain paper. Customers of a service bureau are usually those individuals and companies who have occasional need for high-quality output, but cannot justify the tremendous expense of high-resolution typesetting or imagesetting equipment.

In addition to Macintosh support, most bureaus you will find these days support MS-DOS (IBM) systems as well. And while there are a few service bureaus that have Amiga systems connected to their typesetting equipment, you will still find that many bureaus outside of major cities haven't even have heard of the Amiga, unfortunately. That doesn't mean, however, that as an Amiga owner you have to mail disks to faraway places, suffer shipping and handling delays, and then wait impatiently for your master documents to appear. With the help of a few utility programs, your Amiga DTP documents can be printed with no problem by most service bureaus.

Service bureaus do offer a wide range of print-related services. The minimally equipped desktop publisher's service bureau often has a 300 to 600 dpi printer that is capable of printing documents which have been output in PostScript format. PostScript has become the standard interface between the computer system and its printer. The reason PostScript is almost universal in the industry is largely because it was the first method to gain acceptance by people first created professional quality master documents on computer equipment. Your master documents will have to be output in PostScript format if your service bureau doesn't have an Amiga system connected to its printing equipment.

For projects demanding the highest quality, many bureaus have high-resolution typesetting or imagesetting equipment. Two commonly found imagesetting units that require PostScript are the Linotronic 100 and 300. You will also find equipment from other manufacturers, including Compugraphic and Varityper, that are capable of creating output from PostScript master documents.

Coming To Terms With Service Bureaus

COLOR SEPARATIONS: **Master documents that are used in the production of multiple quantities of materials that contain *color* text, art, and/or photographs.**

IMAGESETTER: **High-resolution printing device capable of printing both text and graphics to film or paper.**

MASTER DOCUMENT: **A piece of printed material that is reproduced in multiple quantities by a printing company.**

PRE-PRESS: **Functions provided by service bureaus and printing companies that prepare documents for mass duplication on printing equipment.**

PRINTER: **Equipment used to output text and/or graphics from a computer or other specialized device in the creation of a master document.**

PRINTING COMPANY: **An organization that provides the function of document reproduction in multiple quantities.**

PRINTING EQUIPMENT: **In this context, any equipment that produces multiple copies from original documents. This could be anything from a photocopier to an offset printing press.**

SERVICE BUREAU: **An organization that provides the function of creating original documents which are used by a printing company to produce multiple copies.**

TYPESETTER: **High-resolution printing device capable of printing text to film or paper.**

10 Tips For Better High-Resolution Output

- The software packages employed with most high-resolution output printers endeavor to keep line endings consistent with those shown on laser printer output. But character spacing, word spacing, and alignment may change *slightly* when your document is printed in high resolution, so it's a good idea to anticipate that possibility and set up your documents accordingly. High-resolution output may also appear slightly different from screen and dot matrix output.
- Many high-resolution typesetters only have Times, Roman, Helvetica, Courier and Symbol built in. All other fonts are downloadable, but the number of fonts per document is limited. This is not usually a problem, since good document design normally means keeping the number of different fonts to a minimum. You must be sure to use only Adobe PostScript fonts in any documents that you do plan to typeset. Check with your service bureau to find out which typefaces they have available for your use. If they don't have a font and you can't provide it, you can't use it in your document.
- The higher the resolution of the printed output needs to be, the simpler the files should be kept in order to avoid overloading the typesetter's print buffer. Limit PostScript files to one page at a time for best results. At high resolution, it is often advisable to use only a few fonts and to store graphics in a separate file. Boxes, lines, and circles also add to processing time.
- Bitmapped (paint-type) graphics take a long time to print on high-resolution typesetters. Unless the graphic is printed *smaller* than actual size, resolution is not improved and the image may cause the file to overrun the print buffer. With bitmapped graphics, resolution can remain as low as 70 dpi, so laser-printed output on high-contrast paper will often achieve the same result as typesetting.
- Vector-type graphics and scanned images will be improved by typesetting, but problems may still arise—especially when there is more than one graphic on a page. Sometimes the best way to handle high-resolution graphics is to leave an empty box on the page, and manually paste in scanned and vector graphics which have been printed separately. A common problem with complex graphics is that they may print properly on a 300 dpi laser printer, but fail to print on a high-resolution typesetter due to print buffer overrun.
- Gray-scale scanned images should be lightened (if you have the option in your software), as they tend to print darker in high-resolution than on laser printers. You can also use a higher screen frequency, from 53 to 90 lines per inch, for example.
- When screened areas are output, they generally do not appear at the same density on a professionally typeset page as they appear on the 300 dpi proof. When compared to a proof that was printed on a laser printer, dark screens look darker on an imageset page, while light screens may appear lighter. For example, a 20% gray screen may appear on the proof to be too dark to be used as a background for text. Yet, when printed on a typesetter, that same 20% gray screen may be just about right.
- Proof your documents carefully before typesetting; it is much less expensive to reprint a dot matrix- or laser-printed page than it is to reprint a professionally typeset page. It is not the service bureau's responsibility to reprint your work at no charge just because you made a typographical error or misplaced a ruler line.
- In most cases, you can ask the bureau to print your master document on paper, as it is much easier and less expensive to work with than film. However, if you are printing scanned images or fills, you should probably print to film. Printing to film directly provides the best quality image.
- All of the above notwithstanding, develop and maintain a good working relationship with your service bureau's staff. Consult with them before taking your disk to them for printing. They can recommend whether or not you should use paper or film, and they can advise you on other important matters, including whether you should print negative or positive film, and whether the master document should be mirrored, or printed backward.

Because most of the equipment found in service bureaus can also print line art, computer graphics, and digitally-processed photographs, the term "typesetting" is now being replaced by a new term—imagesetting. Many bureaus can also process photographs using traditional methods, and can even provide color output in small quantities, or color separations for large quantity production runs. Many service bureaus are affiliated with printing companies, and they may expect—or even insist—that your print jobs be completed by their associated printing company.

Very few service bureaus can handle Amiga DTP files other than PostScript files.

The costs for all of these services vary widely around the country, though there usually isn't much variation within a local area. The bureaus in my community charge about a dollar a page for 300 dpi master documents, and $8 per page for typeset materials that contain no graphics.

Graphics work takes PostScript imagesetters a long time, so many bureaus charge by the hour instead of by the page when printing them. It is often less expensive to have photographs processed traditionally, and you should expect bureau personnel to assist you in determining the least expensive way to proceed. You may find that you don't need to buy that image scanner after all.

There are several simple procedures that Amiga owners can use to prepare master documents in a format that is usable by virtually all bureaus. The process can be described in these five steps:

(1) Create the master document with your desktop publishing software.
(2) Carefully proof the master document output on your own printer.
(3) Create a PostScript disk file of the master document.
(4) Transfer that disk file to either a Macintosh or MS-DOS format diskette.
(5) Give the file to your service bureau—and wait patiently for your complete master document.

The first three steps in the above process have to be completed on your own equipment, and your desktop publishing software must be able to create PostScript files on diskette. Some low-cost desktop publishing programs do not have a PostScript output option, so be sure to choose yours carefully. Few service bureaus can handle Amiga DTP files other than PostScript files.

You Say You Want Some Resolution?

Producing documents that have a genuine "published" look about them depends upon more than just using multiple columns and more than one font style and letter size. One of the most important characteristics of published documents is the resolution at which they are printed. Resolution is usually expressed by printer manufacturers in terms of "dots per inch" (dpi). Note that a page printed at 300 dpi will appear to be *four* times as sharp as a page printed at 150 dpi (150 x 150 = 22,500 dots per square inch; 300 x 300 = 90,000 dots per square inch, an improvement by a factor of four).

Most dot matrix printers have a resolution capability of between 150 and 220 dpi, with some 24-pin printer manufacturers claiming up to 360 dpi resolution. While I do not doubt the claims of printer manufacturers, even documents printed on 360 dpi dot matrix printers don't appear to me to be as sharp and clear as laser printed 300 dpi output. Some ink jet printers are capable of 300 dpi output, and as perceived by the casual observer, ink jet output is equivalent in appearance to that of laser printers. LED (light-emitting diode) printers have recently found favor among desktop publishers, as their output is virtually indistinguishable from that of laser printers at any given resolution.

Sometimes 300 dpi is all your desktop-published documents need, but when you plan to print your document on glossy, enameled paper, 300 dpi appears fuzzy to many readers. For your most demanding print jobs, you can obtain 600, 1270, or even 2450 dpi output from a high-resolution imagesetter. High-resolution imagesetters are high-quality printers with price tags ranging from around $10,000 to $100,000 or more.

Of course, few desktop publishers can afford the expense of these top-of-the-line typesetting devices. So, as the DTP revolution grew, companies in the printing industry began offering the use of their typesetters to those who want high-resolution output but cannot afford the high cost of the necessary equipment. Hence, the service bureau was born.

Amiga owners have a number of options when it comes to transferring files to an MS-DOS or Macintosh format diskette. It's best to check with your service bureau staff to find out what of the following formats they prefer to work with, then:

- Use a modem to transfer the PostScript disk file from your computer to either a Macintosh or IBM compatible computer. Many service bureaus have a modem connection where you can transfer PostScript disk files directly to their Macintosh or MS-DOS computer. PostScript files are very large, however, and a typical page of text can take several minutes to transfer. Pages with graphics of any kind, even simple ruler lines, boxes, and screens, can take more than an hour to transfer. PostScript files can be compressed for faster transfer, and the compression process is described below.
- Use the Bridgeboard to copy files from your Amiga disk to an MS-DOS format floppy disk. Some Bridgeboards can write to high-density format diskettes, allowing the largest files possible to be transferred to a floppy disk. File compression can be used to allow the transfer of large PostScript files.
- Use an Amiga-based file transfer utility to transfer your file to an MS-DOS format floppy disk. Examples of file transfer utilities I am familiar with are DOS-2-DOS from Central Coast Software, and CrossDOS from Consultron. This method is the least expensive if you can deal with its major limitation: PostScript files are restricted to 720K or less. Amiga disk drives are limited to writing only to double-density diskettes, which in MS-DOS format are capable of storing only 720K. File compression is especially useful when having to use double-density diskettes to transfer large PostScript files.
- Use a file transfer utility to transfer your file to a Macintosh format floppy disk. Examples of Macintosh-compatible programs that work on the Amiga are MAC-2-DOS from Central Coast Software and A-Max from ReadySoft Inc. If your service bureau has only Macintosh systems, you might still be able to provide an MS-DOS diskette file. Most late-model Macintosh systems have high-density drives, and have the capability of reading MS-DOS disks via a provided file transfer utility. If the bureau has Macs that have the designation FDHD printed near the floppy drive, or have a Mac Classic or later model Macintosh, your bureau is capable of reading MS-DOS diskettes.

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Eventually, you will likely encounter one or more of the problems that commonly occur at various stages of the desktop publishing process. The first problem relates to the file transfer process, and generally results from the large files that PostScript creates. And Amiga desktop publishers may only achieve partial success in obtaining assistance from service bureau representatives in solving these problems.

If PostScript generates a file too large to fit on a floppy disk, you do have a few alternatives. In all cases, you will probably find it most convenient to print documents to disk one page at a time, storing each page as a separate file. Color separations can take megabytes of file space. Each page of a color separation is usually composed of four master document sheets. Most programs that generate color separations can create the individual yellow, magenta, cyan, and black separations as four independent, small files that can often be transferred to floppy disk without resorting to compression techniques.

A file that won't fit on a single floppy must first be printed to a hard disk. A file compression utility can

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be used to shrink the PostScript file size to minimum. The file must be compressed, copied to a floppy disk, transferred to a hard disk on the service bureau's computer, then decompressed before being sent to the imagesetter for printing. If you have copied the file to an MS-DOS hard disk or partition via the Bridgeboard the process is simplified, as you can run a compression utility on the IBM side of the bridge. The file can be easily decompressed on the MS-DOS system at the service bureau. Similarly, if you are using A-Max, you can run the compression utility on the A-Max system, and decompress on the Mac at the service bureau.

If, however, you are limited to Amiga operation, you must compress your file on the Amiga using a program that is available for both the Amiga and either the Amiga or MS-DOS systems. One example of this program is ARC. Though difficult to find on the Macintosh, it is available (the most popular Macintosh compression utility is called Stuff-It). ARC is also available in IBM and Amiga format, and the MS-DOS version can easily decompress a file originally compressed with ARC on the Amiga. When transferring files between IBM and Amiga, limit Amiga file names to no more than 8 characters, a period, and a three-letter extension (e.g., PAGE1.PST), as MS-DOS can accept no file names larger than this. Other commonly-used compression programs that are compatible between MS-DOS and Amiga are Zip and LHarc. It is beyond the scope of this article to discuss how these programs are to be used. The documentation that comes with each compression utility describes in detail how the utility can be used. In most cases, the programs work the same on any computer platform.

Your service bureau may have copies of these programs available on their MS-DOS machine already, as they may also have DOS users who bring compressed files in for printing. The compression utilities mentioned above are all shareware, and can be found on thousands of BBS's and all of the major information services. If you use them, please pay the shareware fees. People who use these programs on a commercial basis are required to pay for the software according to the tacit agreement made when they elect to use it.

If you have compressed the file, and it is still too large to fit on a single diskette, you will probably have to separate graphic images from text, and have the staff at the printing company manually insert graphics in the document just as they did in the "olden days"! This will definitely cost you more in production time and expense. Another option here is to split the file into two half-pages, and have the two partial pages assembled by the cut-and-paste method.

Another problem you may run into is a bias against working with "non-standard" systems. Indeed, some Macintosh-based bureaus consider MS-DOS systems to be non-standard. The best way around this problem is to simply ask to have the PostScript files on your disk printed out. Give it to them on a Macintosh or MS-DOS disk, and you should be able to avoid any problems. If they cannot print a standard PostScript file, they probably have never done it before anyway, and I would recommend you find another bureau. Most metropolitan areas of reasonable size have plenty of service bureaus around, and you should be able to find one that can do precisely what you request.

Service bureau staff who are used to loading a document into a desktop publishing program and printing it directly may ask you to specify the program that was used to generate the file. Politely tell them that the file is PostScript output, and that they do not need to load it into a desktop publishing program for printing. If they use MS-DOS systems, tell them that they can simply use the DOS copy command to copy the file to the imagesetter. However, I have found that this method can occasionally cause output failures with some complex documents. Your MS-DOS-oriented service bureau might have a PostScript downloading utility available for use as well. Adobe, the type manufacturer, provides a PostScript downloading option on their Macintosh-based font download utilities. The downloading option has proven to be more reliable than the DOS copy command at my service bureau of choice.

If you simply cannot find a service bureau that can print a PostScript file directly, you do have another alternative. In fact, this method is especially effective in working with Macintosh-based systems. MS-DOS requires a much higher level of expertise in service bureau operators, and many Mac-based bureaus limit themselves to loading Quark and PageMaker documents and printing them directly. To work around this limitation, print your page to disk in EPSF (Encapsulated PostScript Format). Virtually all Macintosh-based service bureaus can import an EPSF file for printing. The process is simple. For example, if using PageMaker on the Mac, the operator creates a new page, then simply Places the file on the empty page. With Amiga-created EPSF files, the Macintosh shows a large rectangle that has text which identifies the origin of the EPSF file. No image of the page will be shown on the Macintosh. Once the EPSF file is placed onto the page, the page is simply printed as usual. Not all Amiga-based desktop publishing programs can write EPSF files, so this option may not be available to you.

Several problems often encountered by Amiga desktop publishers relate to printing high-resolution master documents in general. Fortunately, though, problems of this nature are often solved with the assistance of your service bureau staff. Bureau staff have seen many similar problems when working with Mac and IBM files. These problems result when the computer printing the document isn't the one that generated it.

Imagesetters with minimal memory may churn away on your PostScript page for 30 minutes or more, and then fail to generate an image *or* a page. It often happens that large, complex pages with many graphics and illustrations overrun the imagesetter's buffer. It is surprising to me that many imagesetters do not even warn the user that this has happened! Many service bureaus add insult to injury by insisting that you pay for production time on the imagesetter, as they're certain there's a problem with your master document file. You are less likely to be charged in these instances if you have provided the bureau with a lot of work! Regardless, it's always best to first ask about policies regarding fees due when a PostScript master document does not produce.

PostScript has a limitation on the maximum number of elements in a structured drawing that are linked together internally. Complex illustrations are especially prone to this problem, which is common among desktop illustrator programs on all computer systems (see "Ten Tips For Better High-Resolution Output" on page 49 for a possible solution to both of these memory-related problems).

Sometimes you will receive a master document page from your bureau, only to find that certain fonts you chose were reproduced in Courier font with atrocious kerning settings on the imagesetter. This situation occurs usually when you've selected a font not supported by the imagesetter. You must always be sure of exactly which fonts are available for your use at the service bureau. Further, not all fonts are automatically available directly from the imagesetter. You need to identify fonts in your document, and you may have to have the imagesetter operator download the fonts into the imagesetter before your document is produced. Downloading fonts takes up buffer space, and too many fonts may result in a failure to create an output page.

If you plan to do a lot of high-resolution desktop publishing, it is extremely important to develop a warm working relationship with the staff at the service bureau. Listen carefully to their recommendations. It never hurts to point out to them that you intend to use their service on a regular basis, if that is the case.

Some final words of advice: Avoid making direct references to the superiority of your Amiga in desktop publishing applications. Despite what you and I know, others may fail to see the merits of—or otherwise appreciate—your claims.

•AC•

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DIVERSIONS

GAMES REVIEWED:

CLASSIC BOARD GAMES

DRAGON'S LAIR II

BUCK ROGERS

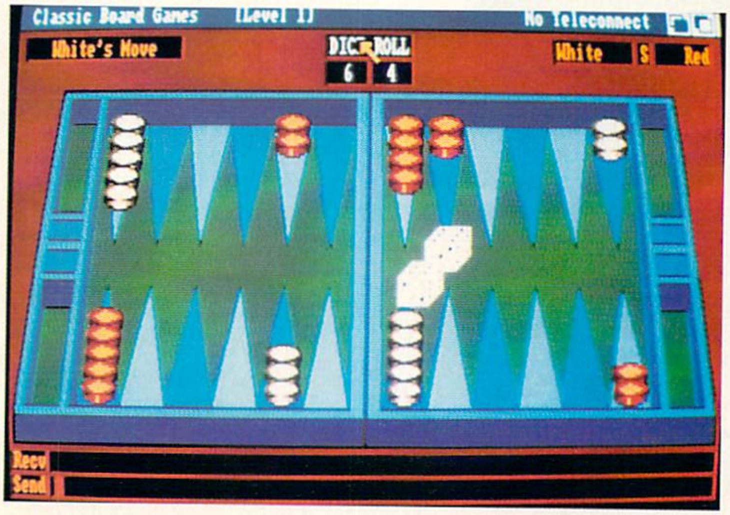
ROBOCOP 2

CLASSIC BOARD GAMES

by Miguel Mulet

There are certainly a lot of different entertainment packages available for the Amiga. You can blast off into outer space and fight alien races bent on your destruction, or explore worlds unknown in the guise of a time traveler. Sometimes, though, you're just in the mood for a good old-fashioned game of checkers. If you want to get back to basics, then you may want to take a look at "Classic Board Games".

Classic Board Games, from Merit Software, brings three favorites — chess, checkers, and backgammon — together in one package. I've seen public domain versions of each of these games, but the difference here is that you can play any of the three selections with another person via modem.



Backgammon is just one of the selections available in "Classic Board Games".

Each game enforces "all of the official rules," which seem to come from "Hoyle's Rules of Games". This means that the chess game supports both castling and la passant, while backgammon supports use of the "doubling die", an option that can be turned off. Checkers is played pretty much the way I learned to play it growing up.

There are several options available for each game via pull-down menus. You have your choice of three opponents — another person, another person via modem, or the computer. The computer can be selected to play at the novice, expert, or master level, but choosing the higher levels results in more computer "thinking" time for each move. The perspective can be changed by selecting either a 2-D or 3-D board, as well as rotating the board to any of the four sides (two sides for backgammon). Games in progress may be saved and played later. There is also complete control over modem settings and the settings your modem opponent will use. These may be easily saved and retrieved for future use.

Sound effects are limited — a solid "thunk" as pieces are placed on the board, a bell which sounds when one side or another wins, and the shaking and rolling of the dice in backgammon. These sounds are simple yet effective (after all, who ever heard of a noisy game of chess!). Graphics are also fairly simple, with few details of the pieces being represented. Gameplay is fairly quick at the novice level, becoming a little longer at the higher levels.

Provided on one non-copy-protected disk, the game also comes with a 28-page manual which assumes you already know the rules of the games. The manual is used to enter a key word at the beginning of the game, and, in a welcome feature, each line in the manual is numbered to make this task as painless as possible. The game can be played on a 512K machine if you unplug any other disk drives. It can also be installed on a hard disk.

Classic Board Games is just that — simple versions of chess, checkers, and backgammon. It has the same appeal as the original games, with the mouse-driven interface being easy to use. The main advantage of playing them on a computer is that you always have a willing opponent, and if you tire of playing with the computer, you can always dial up another opponent via modem. Although I won't play it every day, I know I'll come back to Classic Board Games every once in a while for a quick game of checkers.

DRAGON'S LAIR II: TIME WARP

by Miguel Mulet

Remember the classic coin-op game Dragon's Lair? It allowed the player to control the animated hero Dirk The Daring in his attempt to rescue Princess Daphne from the evil wizard Mordroc. Well, Mordroc has once again captured Daphne — but this time he has transported her to another dimension in which he will marry her unless Dirk can rescue her once again.

"Dragon's Lair II: Time Warp", from ReadySoft, starts where Dragon's Lair left off. You control Dirk and must take him through several dimensions to find and rescue Daphne before Mordroc marries her.

Like its predecessor, Dragon's Lair II is a pleasure to look at, and a challenge to play. The graphics are entirely professional in appearance and, since they are done in overscan mode, they fill the screen. Once again, the animations are smooth and enhanced by digitized sound effects. The programmers must have worked hard on this one, as the graphics load quickly and quietly off the floppy disks.

Gameplay is pretty much the same as in the original game — you control Dirk via joystick or keyboard. Not only do you have to figure out in which direction to move Dirk, but these moves must be timed fairly accurately. Making the right move at the wrong instant — or the wrong move at the right instant — will almost always cost you a life, and these lives are precious. You can earn more lives, however, if you successfully complete several levels.

Time Warp is provided on six disks, with a much meatier manual this time around. The manual gives loading instructions, a brief synopsis of the game, and a description of the tasks that must

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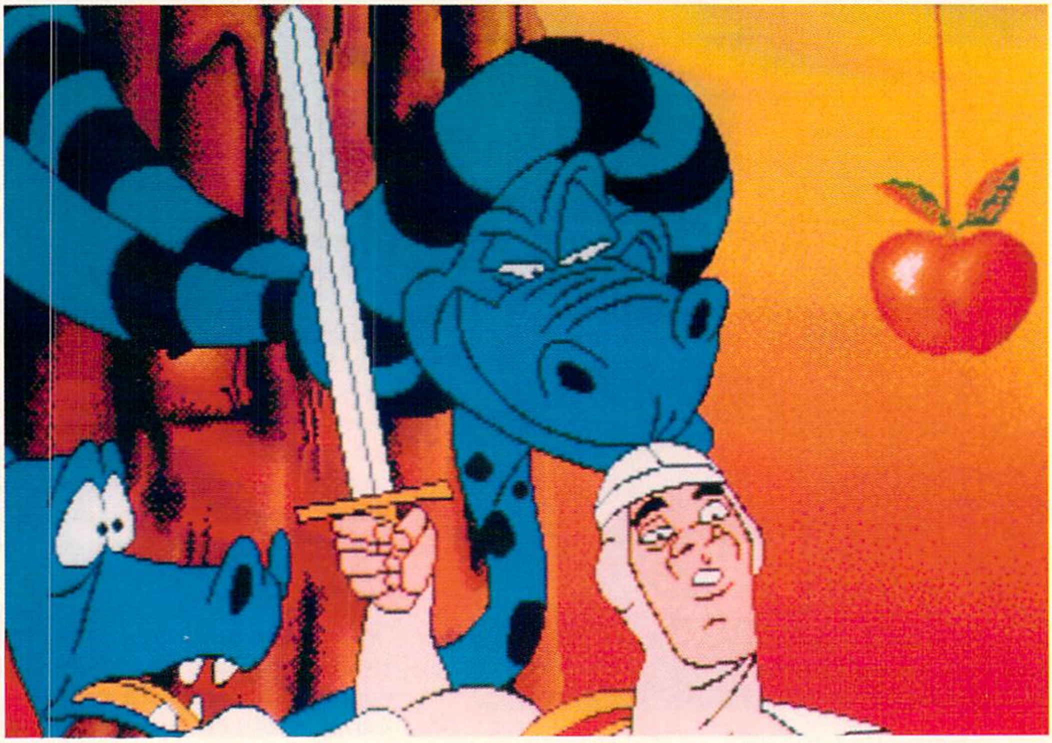

Urged on by a rather seedy character, Dirk contemplates the forbidden fruit in "Dragon's Lair II".

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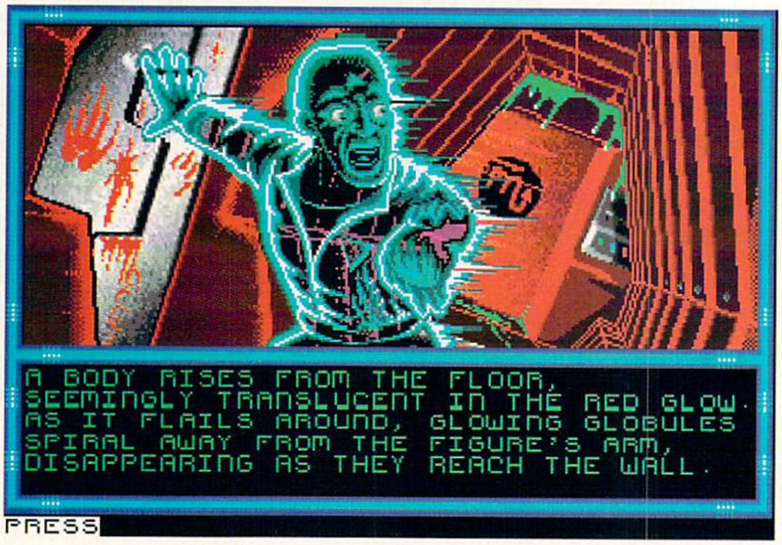
be completed in the 46 scenes required to finish the game. The ability to save a game in progress to disk and toggle the sound effects on and off are greatly appreciated.

If you enjoyed the original "Dragon's Lair," chances are you'll like this one also. If you are new to this type of game, beware — it can be extremely difficult to play. The right combination of moves and timing is critical! You may want to watch someone else play and pick up some pointers before you try it on your own.



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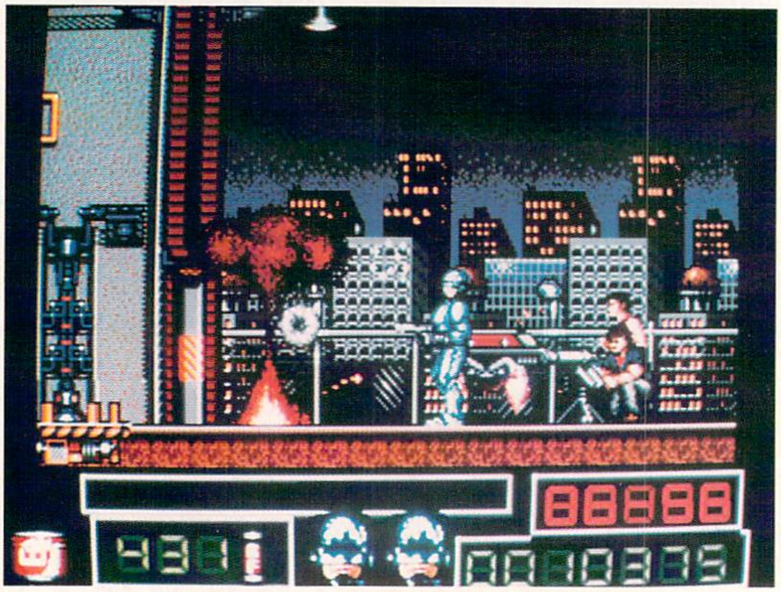

top: A holographic "ghost" is one of the finds aboard the derelict spaceship in "Buck Rogers". bottom: RoboCop in Search of Nuke in the River Rouge complex.

BUCK ROGERS: COUNTDOWN TO DOOMSDAY

by Jeff James

Rocket through the inner planets with Buck Rogers in open rebellion of an evil space empire in "Buck Rogers: Countdown To Doomsday" (Buck), SSI's latest Amiga software adventure.

SSI has teamed up their best-selling playing interface — first pioneered in Pool of Radiance _ with the legendary fiction of Buck Rogers, the hibernating space hero awakened far into the future, ready to do battle with the forces of evil. The year is 2456 A.D., and the despotic Russo-American Mercantile (RAM) holds the entire solar system in its nasty grasp. Fighting alongside Buck, the player leads a team of space adventurers, under the auspices of the New Earth Organization (NEO), in an attempt to free Earth and thwart the evil schemes of RAM.

Buck's playing interface is based on the same one employed in SSI's other role-playing products for the Amiga, such as Champions of Krynn, Pool of Radiance, and Curse of the Azure Bonds. I was a little wary of Buck at first, thinking that SSI might have simply done a quick fix on Pool of Radiance by switching swords with laser pistols and dragons with combat robots. Fortunately, my apprehension was unfounded, as Buck is significantly better than previous SSI offerings in its treatment of gameplay, graphics and animation.

Characters may be created from one of six races — Earthling, Martian, Venusian, Mercurian, Tinker or Desert Runner — and be given one of five careers — rocketjock, warrior, engineer, rogue, or medic — for a maximum of six player-characters. Character development in the game consists of specialization and skill learning, with characters concentrating on skills applicable to their careers. For example, medics specialize in administering to the wounded, warriors specialize in combat, etc. In addition to having these career-specific skills, characters can also learn a wide range of secondary skills, from acrobatics to astronomy. Such a robust and varied system for character development added immensely to this reviewer's enjoyment of the game.

Aside from welcome advancements in character development, Buck also doesn't saddle the player with the same endless ordeal of combat ad nauseam that Pool of Radiance forced players through. Don't get me wrong; vio lence is still the primary method of dealing with beasties you encounter, though swords and spells have given way to plasma throwers and needle guns. Puzzle solving and long-term strategy play more significant roles in Buck, with players often rewarded with bonus experience points for finding stealthier and less violent routes around obstacles.

Going around these obstacles was made a bit easier through the simpler construction of the scenarios. Unlike other role-playing games that required reams of graph paper to map where your characters have been, Buck can be completed with only a nominal degree of map making. In fact, I only partially mapped two locations in the game and was still able to finish the scenario without becoming hopelessly lost. All these improvements make Buck a much more balanced and playable adventure than any of SSI's previous offerings for the Amiga.

Programmed by SSI's own inhouse special projects team, Buck's graphics are crisp and well drawn, displaying a vigorous attention to detail. Most of the graphics and animations were obviously wrought by talented artists who know how to put the Amiga's color and animation capability to good use. Buck simply features the best graphics and animations this reviewer has yet seen in an Amiga game developed by SSI.

Sadly, the sound that goes along with the pictures leaves much to be desired. It's a puzzle as to why SSI, which has obviously gone the extra mile to make Buck's graphics better than previous SSI offerings, decided to match the improved artwork with such mediocre music. I've heard almost better sound squawking from a decrepit C-64. The sound effects — laser blasts, screaming bad guys, rocket launches, etc. — are a tad better, although not quite state of the art.

In summation, Buck is a slightly flawed yet enjoyable adventure, a pleasant diversion from the usual computer role-playing diet of swords and sorcery.

ROBOCOP 2

by Miguel Mulet

Omni Consumer Products has done it again. In an attempt to create another human cyborg, it has gone beyond bad taste by using mentally unstable brain tissue in its latest law enforcement unit — RoboCop 2. Not only is RoboCop 2 a criminal, he's addicted to a deadly new drug called Nuke. RoboCop must rid the streets of Detroit of this menacing drug, while also keeping an eye out for his evil successor. To make matters worse, the rest of the police force is on strike. You're on your own, as RoboCop!

You guide RoboCop through the three main levels using the keyboard or a joystick. The first level takes place in the River Rouge Sludge Plant, where a band of Nuke addicts is protecting a supply of Nuke — and hoping to destroy RoboCop. Next up is the Tokugawa Brewery, where the drug addicts have set up a Nuke production plant. Lastly, you must destroy Cain at the Detroit Civic Center — or be destroyed yourself.

Data East's "RoboCop 2" is a typical action-arcade game, where the primary goal is to destroy your opponents with firepower. There are a couple of things which make this game a little different. First off, there are canisters throughout each level which change the attributes of your weapon, as well as your armor. Besides destroying the drug addicts, you must also protect the innocent hostages who are found throughout the first two levels. Lastly, RoboCop must also confiscate a certain amount of Nuke in order to progress to the next level. With a couple of bonus rounds thrown in for good measure, there is enough to do to keep the game interesting.

Game graphics are fairly well done, although they are not spectacular. Sound effects are limited to the sound of weapons of one sort or another firing. Most of the levels are made up of several horizontal and vertical sections, all of which scroll smoothly despite the amount of activity on the screen.

RoboCop 2 is not the easiest of action-arcade games, but it is fun to play (albeit a bit violent). It's not for everyone, though, as it really doesn't break any new ground. •AC•

Correction

It has been brought to our attention that the following error appeared in the April 1991 issue of *Amazing Computing.*

In the "Diversions" column, on page 57, the caption for the Lemmings screenshot attributed the game to Accolade when, in fact, the product is produced by Psygnosis.

We apologize for any confusion this might have caused. —*Ed.*

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bug bytes

The latest in tips, workarounds, and upgrades.

This Month:
ImageFinder Update,
"Clock Amnesia",
Project D
and more.

by John Steiner

LAST ISSUE, I REPORTED on an update to DeluxePaint III that fixes problems encountered when running the program under Workbench 2.0. According to an Electronic Arts spokesperson, to receive the version 3.25 update at no charge, you must mail back all three original DeluxePaint disks to EA.

Jim Murphy of Lansing, MI reports that DeluxePaint 3.25 has a problem with the Print Stop requester when running under Workbench 2.02. This bug could cause the loss of your work. Jim runs a stock A3000 with 16 MHz clock and a Citizen GSX140 printer. I duplicated this bug myself on an Amiga 3000 at 25 MHz while using a Brother M-2518 printer. When running under AmigaDOS 2.02, if during the print process "Stop" is chosen, the application displays the sleep icon and effectively hangs. The printer stops operating, but control does not return to DeluxePaint. If the Workbench is available before the printing process is begun, it is possible to switch to that and continue with other applications, but switching back to DeluxePaint returns you to the sleep icon. (Printing aborts normally under Workbench 1.3 according to Murphy.)

The only way to regain control of DeluxePaint is to reboot and reload the program. Any work in progress that hasn't been saved will be lost. To avoid loss of work, always be sure to save your work before you print. You can also let DeluxePaint continue with the print job until it is finished. *Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404, (415) 571-7171. Inquiry #201*

BGRAPHICS WAS the subject of an Email note sent by Tyrone Smith. Produced by TRSL, the business package is up to version 1.4; this update is free to registered users. If you haven't sent in your registration card yet, do so now in order to receive the update.

The Email note also made mention of a new TRSL address. Registration cards bearing the old TRSL address will be forwarded, but to speed up the process, users may wish to send the registration card directly to the company's new address. *TRSL, 3950 Koval Lane Ste. 3049, Las Vegas, NV 89109. Inquiry #202*

THERE'S A NEW VIRUS to watch out for according to a notice left on PeopleLink's AmigaZone. The virus apparently appeared after a program called "TRON.wrp" was downloaded. The virus is detected after a few resets. It replaces the mouse pointer with a smiling face and scrolling text identifying it as a virus. The writer of the notice went on to say that he destroyed the virus by rebuilding his working disks from originals.

A PRESS RELEASE from Micro-Systems Software describes a fix that ensures Scribble! Platinum is compatible with Workbench 2.0. Users of AmigaDOS 2.0 will find that a Platinum-series program window is larger than the screen on which it opens. This places the bottom and right edges of the window beyond visibility. This happened because Commodore changed the method by which a program identifies the existence of an A2024 monitor between AmigaDOS 1.3 and AmigaDOS 2.0. Until such time as Commodore provides backward compatibility, a patch is needed in order for any Platinum-series program to open a screen-size window.

The Platinum-series custom screen checks for a Workbench version greater than 1.3. If found, the program tries to open an A2024 screen. This patch nullifies that check and inhibits any attempt to open an A2024 screen.

First, make a new working copy of the master disk. Then, in an object editor program like NewZap, Sectorama, or the Disk Mechanic's WorkShop, look for this sequence of eight HEX bytes on the working copy:

```
0C 40 00 22
63 00 00 84
```

and replace it with:

```
0C 40 00 22
60 00 00 84
```

Finally, save the change.

The latest virus to make the rounds apparently appeared after a program called "TRON.wrp" was downloaded from PeopleLink.

Of course, if you don't want to make this change yourself, give Micro-Systems Software a call, and they will provide you with the details on how to receive an updated version. *Micro-Systems Software,12798 Forest Hill Blvd. Ste. 202, West Palm Beach, FL 33414, (407) 790-0772. Inquiry #203*

ZARDOZ SOFTWARE has announced the release of version 1.0D of ImageFinder, the IFF graphics database utility. The update fixes a problem with the ARexx Command Menu. If you have been unsuccessful in getting the Command Menu to work properly, this update should do the trick.

Contact Zardoz directly if you wish to request the latest update. *Zardoz Software, 6114 LaSalle Ave. Ste. 304, Oakland, CA 94116, (415) 339-6280. Inquiry #204*

DKB SOFTWARE announced the release of a hardware add-on that can upgrade your Amiga 2000 series to 2 MB of Chip RAM. Chip RAM in current A2000 units is set at 1 MB; older units have only 512K available. The larger amount of Chip RAM available allows for the simultaneous use of more graphics screens, sound, and music. The upgrade is fully compatible with Workbench 2.0 and the Enhanced Chip Set; a simple, no-solder installation is claimed. The add-on carries a suggested price of $299.95 without the required 2.0 MB Agnus Chip. *DKB Software, 832 First Street, Milford, MI 48042, (313) 685-2383. Inquiry #205*

ACCORDING TO a posting on PeopleLink's AmigaZone, owners of TxEd+ can upgrade to Oxxi's TurboText for a substantial discount off the new program's $99.95 retail price. The author of TxEd+ comments that the program is not reliable under Workbench 2.0, and he has decided to make arrangements for this upgrade path with Oxxi, Inc.

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local Amiga software supplier. Contact Oxxi directly for more details on the TxEd+ upgrade. *Oxxi, Inc., 1339 East 28th St., Long Beach, CA 90806, (213) 427-1227. Inquiry #206*

FULLER COMPUTER Systems has announced the shipment of Project D version 2.0. The floppy disk backup utility is now compatible with Workbench 2.0. The company is offering inexpensive updates to registered Project D users. *Fuller Computer Systems, P.O. Box 9222, Mesa, AZ 85214, (602) 497-6070. Inquiry #207*

HAVING INSTALLED Vortex Systemes' ATONCE board in several Amiga 500 units, there appears to me a consistent inability of the board to work properly in A500 systems with Revision 5 motherboards. The ATONCE installs easily and works properly in later model units, but I have yet to get one up and running in a Revision 5 board.

Vortex's technical support staff was not able to assist with the problem. If you have had success with this board in Rev 5 units or earlier, please pass the information along.

AS OF LATE, THERE HAS been an unusually high number of customers in our local Amiga dealer's service department reporting a problem with their battery-backed clocks. The difficulty does not appear to stem from the battery, which should have a life expectancy of five years or so. The problem, it seems, is a case of clock "amnesia", with the computer reporting upon boot-up that the battery-backed clock was not found.

Some applications software, upon a system crash, destroys the clock memory causing the system to report that the clock is no longer there. There is a command that can often restore the clock to operation. At a CLI prompt, type SETCLOCK RESET and press ENTER. In most cases, this command will restore the clock to operation, and allow you to reset the date and time. For those unfamiliar with this procedure, from a CLI type DATE dd-mon-yr HH:MM:SS to enter the correct time and date. Then type SETCLOCK SAVE to transfer the correct data to the battery-backed clock memory.

If SETCLOCK RESET doesn't work, look for a public domain program called "ClockDoc". It checks and repairs defective clock software operation. You should be able to find ClockDoc on a local BBS. I found it on PeopleLink's AmigaZone some time ago and have used it on several occasions to restore proper clock operation. ClockDoc could probably also be used instead of the SETCLOCK RESET command. A newsletter I ran across recently reported that a similar utility, "CallBack2Life", performs the same function as ClockDoc. •AC•

Please write to John Steiner, c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869. Or leave EMail to Publisher on PeopleLink or 73075,1735 on CompuServe.

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Medley

LAST MONTH WE DISCUSSED using sequencer software to save System-Exclusive (SysEx) data. This technique makes it possible to automatically reconfigure all your synthesizers whenever you play a particular song. While this procedure is very useful, it is not ideal for storing large banks of synthesizer patches or accessing individual patches.

There are two solutions to this problem: either buy patch librarian programs for your synthesizers, or learn to save patches and banks in the System-Exclusive format yourself. This column will discuss using William Barton Jr.'s MIDI Library and Microillusions' Music-X to save SysEx information.

Saving sizable banks of synth patches: commercial & public domain solutions.

by Phil Saunders

MIDI Library, found on Fred Fish Disk #227, is a collection of MIDI utilities and a programmer's library. We will use the Amiga's CLI (Command Line Interface) to install and use these utilities. To install MIDI Library in your system, copy the "MIDI.library" file into the LIBS: directory on your Workbench disk. We will use three programs from the utilities directory on this disk: Tsx, Rsx, and Ht. These programs transmit and receive System-Exclusive information through the Amiga's MIDI interface. Copy each program into the Amiga's RAM disk (RAM:). Then do a CD (change directory) command so RAM: is your current directory.

We saw last time that SysEx data is transmitted in the following format:

$F0	System-Exclusive status byte
$18	Manufacturer ID byte
$04	Product ID byte
dd	Device # byte
cc	Command byte(s)
...	SysEx data (number of bytes varies)
$F7	EOX (end of System-Exclusive data)

The initial $F0 (decimal 240) indicates the start of the SysEx data; the $F7 (decimal 247) indicates the end of the transmission. One refinement is that a bank of patches may either be sent as a single transmission (with one $F0 at the beginning and one $F7 at the end) or as a series of patches (with an $F0 and an $F7 at the beginning and end of each patch). Fortunately , the programs in William Barton's MIDI Library are flexible enough to handle both these contingencies. As in last month's column, this SysEx procedure is not applicable to some older synthesizers which require special "handshaking" protocols to acknowledge that data was successfully received.

The first command we will consider is Tsx, which transmits any Amiga file through the MIDI interface. It is up to the user to ensure that the file contains valid SysEx information or MIDI data! Tsx has the following format:

```
Tsx bank1
```

➛

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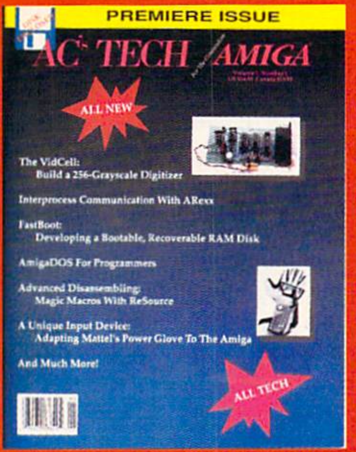

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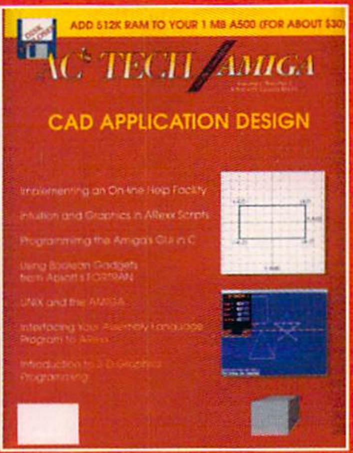

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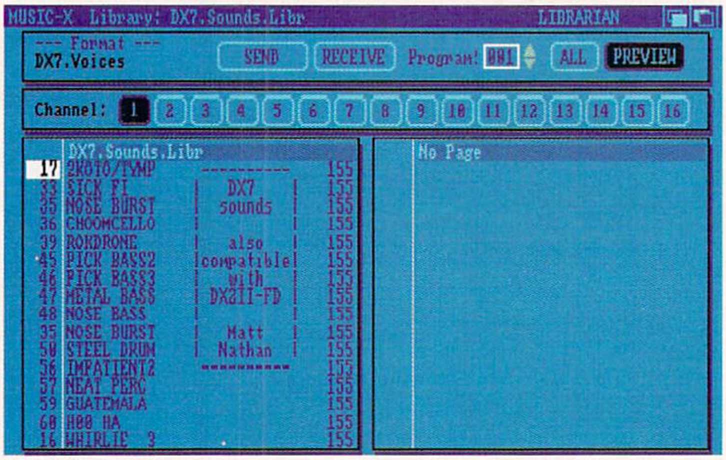

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33 SICK FI         |   DX7    |   155
35 NOSE BURST      |  sounds  |   155
36 CHOOMCELLO      |          |   155
39 ROKDRONE        |   also   |   155
45 PICK BASS2      |compatible|   155
46 PICK BASS3      |   with   |   155
47 METAL BASS      | DX211-FD |   155
48 NOSE BASS       |          |   155
35 NOSE BURST      |   Matt   |   155
50 STEEL DRUM      |  Nathan  |   155
56 IMPATIENT2       ----------    155
57 NEAT PERC                      155
59 GUATEMALA                      155
60 H00 HA                         155
16 WHIRLIE  3                     155
```

Music-X Patch Librarian screen.

This command transmits the contents of "bank1". We will use Tsx to transfer SysEx data stored on the Amiga to our synthesizer.

The next command is Rsx, which receives one or more SysEx transmissions through the MIDI interface and saves them as an Amiga file. Rsx has the following format:

```
Rsx bank1

Rsx -c64 bank2
```

The first command receives a SysEx transmission and saves it as file "bank1"; the second command receives the next 64 SysEx transmissions and saves them as file "bank2". The "-c" option allows us to handle banks that are sent as a series of individual patches. Rsx will receive all the patches and save them as one file. This file can then be saved and transmitted back to the synthesizer via Tsx. Rsx normally waits until it has received the number of SysEx transmissions specified by the "-c" option, but can be aborted by hitting "Ctrl-C".

The final command is Ht, which transmits a series of hexadecimal bytes through the MIDI interface. Ht has the following format:

```
Ht F0 18 04 00 00 00 08 F7
```

This command transmits the eight hexadecimal bytes on the command line through the MIDI interface. We will use Ht to issue commands to synthesizers. The above example sends SysEx instructions for the E-mu Proteus to transmit its first 64 patches via MIDI.

We now have the tools to send and receive SysEx transmissions, as well as to issue commands via MIDI. All we need to do is put the tools and our knowledge of SysEx together. Your synthesizer's manual should have information on how to manually trigger a SysEx transmission. It may also have details on commands and the format used for a patch or bank dump.

We'll consider the simplest case first: recording a single patch sent from the synthesizer's front panel. Enter the command "Rsx Onepatch". Rsx will then print "Onepatch..." to indicate it is waiting for a SysEx transmission. Now use the synthesizer's front panel commands to transmit one patch. Rsx will print the number of bytes received and then "Saved" once it saves the file. You can now copy the file "Onepatch" to disk. To load the patch back into the synthesizer later, simply reverse the procedure and type "Tsx Onepatch".

Sending a bank of patches from the front panel is only slightly more complicated. If the synthesizer sends the bank as a single long SysEx transmission, the procedure is identical, although you should call the resulting file "OneBank" to indicate it holds a bank of patches. If the bank is sent as a series of short SysEx transmissions, you will need to use the "-c" option to specify the number of patches in the bank. If you're not sure which way your synthesizer works, set the "-c" option to two ("-c2") and try sending a bank. If Rsx quickly receives two SysEx transmissions and then saves the file, you know the bank is sent as multiple transmissions. If Rsx receives one long transmission and then keeps waiting, the bank is sent as one SysEx transmission. Hit CTRL-C to abort the transmission and then try again without the "-c" option.

If your synthesizer's manual has information on its SysEx commands, it is possible to completely automate this process so that no front panel commands are needed. My E-mu Proteus manual includes the SysEx commands to tell the Proteus to transmit any patch, bank, or even all the patches in the synthesizer!

The commands will normally be given as a short sequence of hexadecimal bytes, starting with an $F0 and ending with an $F7. The basic procedure is to use Ht to transmit the command and Rsx to receive the SysEx data. Unfortunately, the synthesizer will start the SysEx transmission as soon as it receives the command and before Rsx is ready to receive the data. The solution is to start Rsx first so it is looking for the data before the synthesizer begins the SysEx transmission. The following two lines request and receive the first 64 patches from a Proteus:

```
Run Rsx -c64 ProteusBank

Ht F0 18 04 00 00 00 08 F7
```

Line 1 prompts Rsx to receive the SysEx data and store it in the file "ProteusBank"; line 2 sends the SysEx command for the Proteus to transmit its first 64 patches. The Run command is necessary because otherwise the computer would wait until Rsx had finished receiving the SysEx data before executing the Ht command (which tells the computer to send the data in the first place). This is an elegant example of how useful multitasking is!

These two lines can be entered using a text editor and saved as an ASCII file that can be run with the AmigaDOS Execute command. Be sure to give the file a name that tells what it does (something like

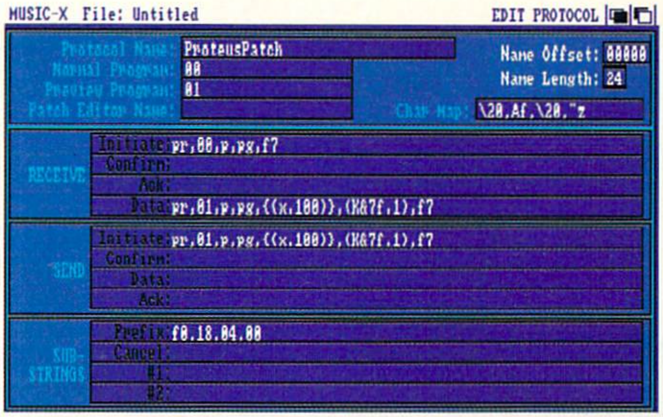
"GetProteusPatches0-63"). In fact, you should use descriptive names for all your SysEx patches, banks, and commands so they are easy to store and retrieve. It's a lot easier to remember what a patch named "BigBASS-Proteus.SYS" is than to remember what sound "Patch12" makes. By saving ASCII command files for common SysEx sequences, you only have to figure out the proper SysEx codes once. After they are built, you can just execute a command like "GetProteusPatches0-63" without worrying about the details of how it works.

There is one additional application for these techniques. The current standard for synthesizer patches loaded on computer bulletin boards is the SysEx format. Patches in SysEx format do not vary on different computers (except for Macintosh files, which have a header before the SysEx data). You can download any patch or bank in SysEx format from local or national bulletin boards, and then use Tsx to send it to your synthesizer. No conversion or file translation is necessary.

If the description of how to request and save SysEx data seems complicated, that's because it really is the equivalent of writing a program using both AmigaDOS and MIDI commands. If you wish to explore MIDI programming in more depth, William Barton Jr.'s MIDI Library is a great resource. It provides MIDI input, output, and routing routines which can be called from Assembly language, AmigaBASIC, or C. The files which accompany it on Fred Fish Disk #227 provide details and some code examples (in C and AmigaBASIC) on how to use the library.

Music-X, Microillusions' MIDI sequencer, contains built-in patch librarian and System-Exclusive communication routines. Instead of saving the System-Exclusive commands associated with each patch or bank along with the patch data, Music-X uses protocols to save this information. Each protocol is written for a particular synthesizer, and contains the System-Exclusive commands needed to read and write patches for that synthesizer.

The advantage of the protocol method is that Music-X can send the handshaking commands needed by some synthesizers. A disadvantage is that protocols are more complicated than the simple SysEx dumps we've been doing. Fortunately Music-X includes "Generic Patch" and "Generic Bank" protocols which can be used to capture complete SysEx dumps (including the $F0 header information). There isn't space here to discuss writing Music-X protocols in detail; consult the Music-X manual for more information.



Protocol Name: ProteusPatch
Normal Program: 00
Preview Program: 01
Patch Editor Name:
Name Offset: 00000
Name Length: 24
Char Map: \20,Af,\20,"z

Initiate: pr,00,p,pg,f7
Confirm:
Ack:
Data: pr,01,p,pg,{(x,100)},(K&7f,1),f7

Initiate: pr,01,p,pg,{(x,100)},(K&7f,1),f7
Confirm:
Data:
Ack:

Prefix: f0,18,04,00
Cancel:
#1:
#2:

Music-X includes a complete protocol language.

A number of users have reported that Music-X has trouble dealing with large amounts of SysEx data. I have experienced persistent problems with protocols that save large (12K-64K) banks of patches. I spoke with Matt Nathan, author of the Music-X manual, about this issue. Nathan says the problem appears to be that low-level system processes sometimes take control of the processor during a SysEx dump. By the time they return control to Music-X, some of the data at the serial port has been lost. Music-X turns off some interrupts during SysEx dumps, but cannot take complete control without bypassing the Amiga operating system. The longer the System-Exclusive dump, the more likely it is that some data will be lost. I haven't had any trouble with single patch protocols. If you stick to the Microillusions protocols and to simple, single patch protocols, you shouldn't have any problems. This is not too much of a hardship, because normally you will want to access patches one at a time.

This concludes my discussion of System-Exclusive data, although there are other uses — including automated MIDI mixing, controlling lights and tape recorders, and configuring complex sound setups — that I haven't discussed. I've noticed a lot of questions on MIDI setups on computer bulletin boards, so next time we'll look at ways to optimize your Amiga MIDI setup.

Microillusions has just released a number of new protocols, which may be obtained by sending either a formatted disk and self-addressed stamped disk mailer or a check for $5.00 to the company. •AC•

Please write to Phil Saunders, c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722. Or leave Email with ID #73077,2732 on CompuServe.

PRODUCT INFORMATION

MIDI Library
Author: William Barton
Program can be found on
Fred Fish Disk #227

Music-X
Price: $299.95
Inquiry #213
Microillusions
P.O. Box 3475
Granada Hills, CA 91394
(818) 785-7345

PD Serendipity

Insight into the World of Public Domain Software for the Amiga

DR 1.2

Dr is a CLI directory listing command that does many of the things you wished AmigaDOS's DIR command would do. One feature you will notice right away is the omission of .info files. By default, .info files are not listed when the Dr command is executed. However, files that do have a corresponding icon will be displayed in orange. This makes viewing directories easier. To have .info files included, simply ad a -I after the Dr command.

Other features include sorting chronologically with the -C option. The default is sorting alphabetically. The -L option will list information regarding each file or directory including size, protection, and date. This is similar to the List command in AmigaDOS.

Dr is faster than DIR, but requires a good amount of memory to work efficiently. If memory is minimal, it will run at DIR's speed. It also supports the #? wildcards like AmigaDOS.

A new feature to 2.1 is the -P option. This option allows only files with a certain protection bit set to be displayed. The pure bit is set so you can make Dr resident.

Dr 1.2 can be found on Fred Fish disk #429.
Author: Paul Kienitz.

MOVESYS

Now you can reassign SYS:, C:, S:, L:, LIBS:, DEVS:, and Fonts:, all in one step. MoveSys allows you to move SYS: to a new disk or directory as long as the subdirectories are present.

This new version now let's you run MoveSys from the Workbench. Click on the MoveSys icon and shift double-click on the desired disk or draw icon. MoveSys will now assign SYS: to the selected draw or disk.

MoveSys can be found on Fred Fish disk #429.
Author: Paul Kienitz.

by Aimée B. Abren

RUNBACK

Runback can execute a CLI command completely in the background, while keeping the CLI window open for use. When executed, the command will have no connection with the CLI window.

Runback is pure, so you can make it resident. It will execute any command used with the CLI, including redirection. A nice feature, that is optional, is a delay option where you tell Runback to wait x number of seconds (1 - 9) before returning to the CLI. This assures that two programs won't try to access a disk at the same time.

Runback can be found on Fred Fish disk #429. Author: Paul Kienitz.

SCRUB

Scrub is a little program that helps in cleaning disk drives. When a floppy disk cleaner is inserted, run Scrub. It automatically searches for a non-DOS disk. When located, Scrub will spin the disk for thirty seconds, moving the heads back and forth. Scrub can work from the CLI or Workbench.

Scrub can be found on Fred Fish disk #429. Author: Paul Kienitz.

CHEATSHEET

CheatSheet is a list completely packed with hints, cheats, backdoors, passwords, etc. for over 150 Amiga games. This is great for those games you just couldn't seem to get through.

This list is an update from the last release in December 1989. More tips have been added, and now the games are listed in alphabetical order. Mr. Shnayer does have a disclaimer to let us know he does not guarantee that a hint or cheat that works on one version of a game will work on the updated version. Also, if it works on the U.S. release, it may not work on the Europe release. In any event, here are a few games found in the list.

Did you know there is a cheat mode in Arkañoid and Back To The Future II? To have unlimited lives in Batman: The Movie, all you have to do is type in 'Jammmm.' But I'm not telling when. If playing the final encounter is all you want to do in Karate Kid II, all you have to do is press this button and you will start right there.

Other games with tips and tricks are Rings of Medusa, SimCity, Test Drive, The Untouchables, and Zany Golf. Plus many, many more.

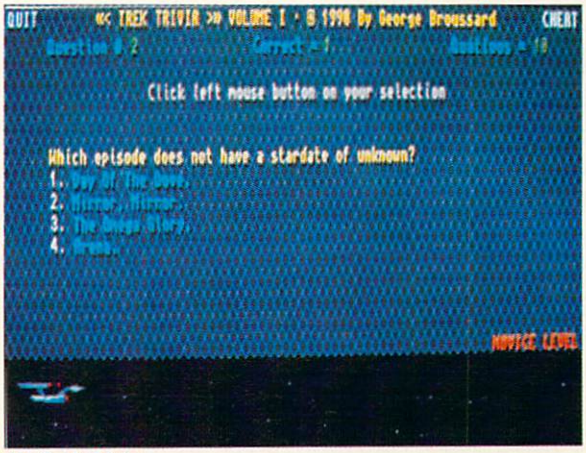
CheatSheet is sure to keep you busy with all the new hints, tips, and cheats to try out.

CheatSheet can be found on Fred Fish disk #431. Author: Mark Shnayer.

SBACKUP

Now you can easily make back ups of your source code effortlessly. Execute SBackup once, along with a filename, and that's it. SBackup will keep track of the last twenty modifications to your source code by putting a .001 extension on the first back up file and then incrementing each thereafter by one. When the twentieth file has been reached, SBackup will delete it to make room for the new one.

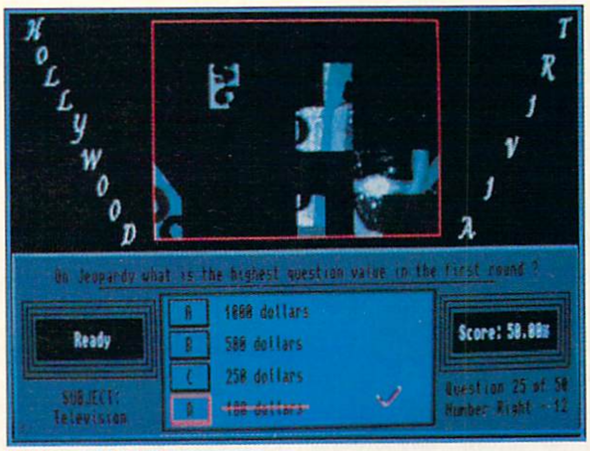
Twenty backup files is the default; this can be changed to any number between 2-99. When a backup file



Click left mouse button on your selection

Which episode does not have a stardate of unknown?
1.
2.
3.
4.

StarTrek Trivia



On Jeopardy what is the highest question value in the first round ?

A 1000 dollars
B 500 dollars
C 250 dollars
D ~~100 dollars~~

SUBJECT: Television

Question 25 of 50
Number Right - 12

Hollywood Trivia

is created, SBackup will add the date and time at the end of the file in the form of a remark statement. Also, a destination directory can be specified.

SBackup is intended for C, BASIC, and Pascal source code, but text files can also be backed up.

SBackup can be found on Fred Fish disk #432. Shareware. Author: George Kerber.

TYPING TUTOR & LETTER ATTACK

Typing Tutor is a fun and easy program to help you with your typing speed. A sentence will be displayed on the screen. When you are ready, retype the sentence. If you make any errors, you are asked to type the sentence again. Once you successfully type the sentence error free, your speed is calculated and displayed on the screen. If your speed increases or decreases from the previous try by more than 5 wpm, the level of difficulty will change. One word is equivalent to five strokes or characters including spaces. You will then be presented with a new sentence.

Letter Attack is for typing accuracy as well as speed. Characters (including caps, numbers, punctuation) will randomly fall down the screen. It is your job to hit the correct key before the character falls to the bottom of the screen. You do not get penalized for an incorrect character; however, your score is based on how quickly you can find the correct character.

The faster you hit the correct key, the quicker the letters will fall. The game ends when a character gets by without being selected and breaks through the wall at the bottom of the screen.

Typing Tutor and Letter Attack can be found on Fred Fish disk #434. Author: Bill Jordan.

HOLLYWOOD TRIVIA

Hollywood Trivia is a fun and easy game to play. There are eight topics to choose from. Each topic has fifty questions. Some topics include M*A*S*H, Television, Music and StarTrek. The object is to answer as many question as you can.

When you choose a topic from the pull-down menu, question one appears. You are given four choices for the answer. If you choose the correct answer, a bell will go off and the "right" box will light up. There is a hidden picture that relates to the topic selected in the center of the screen. Every time you get an answer correct, a piece of the picture is revealed.

When the wrong answer is selected, a bell goes off, and the "wrong" box will light up. If the sound becomes annoying, it can be turned off. There is no time limit on selecting an answer.

One nice feature is the Hint option. If you come across a question that you are stuck on, select hint. This will cross out one of the incorrect answers, leaving you with three choices to choose from. Another feature is the Show Answer option. When chosen, the Show Answer option will highlight the correct answer. You can then select the answer, and even get a point for it. You can use this only three times.

Hollywood Trivia will keep score on how many questions you have gotten correct out of the number of questions asked. A percentage will also be displayed according to this. When all questions have been asked, the rest of the picture on the screen is revealed.

Hollywood Trivia can be found on Fred Fish Disk # 423. Shareware. Author: Town Crier Publications.

TREK TRIVA 2.0

Trek Trivia is an exciting game for all you StarTrek fans. This game comes with 100 questions about the television show. There are nine volumes to the game in all. Volumes 1 - 7 are general questions about the show. Volume eight deals with quotes, and volumes 9 and 10 are the "Master" volumes. You can get these by contacting the author. The address is included on the Fred Fish disk.

The games begins with showing a question on screen. Four answers are displayed for you to choose from. You get one point for every correct answer. At the beginning of the game you start out with a set amount of quatloos. You lose a quatloo for every incorrect answer. You gain one quatloo for every 10 correct answers. The game ends when you run out of quatloos. There is a Cheat mode that will show the correct answer. The catch on using the cheat mode is that you loose five points every time.

Before beginning the game you are given the choice of two skill levels, Expert and Novice. The difference is that in novice mode you can miss 10 questions, instead of three. Also there is no cheat mode in the expert level. This version now has over twenty theme songs playing to add to the feeling of the game. At the end of the game you are given an officer rank according to how well your score is.

Trek Trivia can be run from the CLI or Workbench and is shareware. Trek Trivia can be found on Fred Fish Disk #422. Author: George Broussard.

•AC•

Please write to Aimée Abren, c/o
Amazing Computing, P.O. Box 869, Fall
River, MA 02722.

THE DISC COMPANY'S

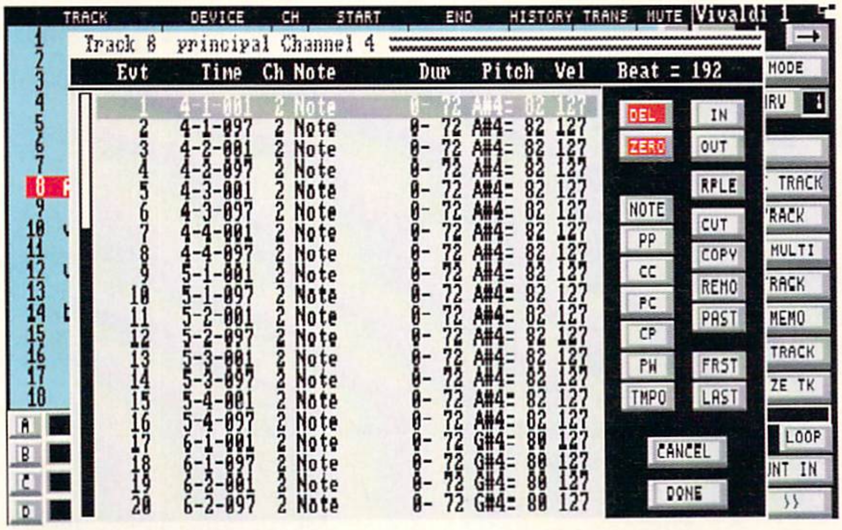
HARMONI MIDI-SEQUENCER

by Rick Manasa

Into the small but growing market of MIDI sequencers for the Amiga comes Harmoni, a powerful yet easy-to-use entry-level sequencing package from The Disc Company. Harmoni is set up on the drum machine principle. You can create a set of patterns and then link them together into a finished piece.

Harmoni has room for 52 patterns — labeled upper-case "A" through lower-case "z" — in its Sequence Mode. There are 54 locations for those Sequences in its Song Mode. Each Sequence can hold 24 tracks. You can write your music all in one Sequence, or put the Count Off in "A", the Intro in "B", First Verse in "C", etc. and put them in any order you'd like in Song Mode. When you save a Song, all the Sequences that make up the song are saved with it. There's no need to save each Sequence separately.

Harmoni's Event List Editor displays such elements as the Event number, time the Event starts, the MIDI channel, and the type of Event.



```
Track 8  principal Channel 4
 Evt    Time  Ch Note        Dur    Pitch  Vel   Beat = 192
   1   4-1-001  2 Note        0-  72 A#4=  82 127
   2   4-1-097  2 Note        0-  72 A#4=  82 127
   3   4-2-001  2 Note        0-  72 A#4=  82 127
   4   4-2-097  2 Note        0-  72 A#4=  82 127
   5   4-3-001  2 Note        0-  72 A#4=  82 127
   6   4-3-097  2 Note        0-  72 A#4=  02 127
   7   4-4-001  2 Note        0-  72 A#4=  82 127
   8   4-4-097  2 Note        0-  72 A#4=  82 127
   9   5-1-001  2 Note        0-  72 A#4=  82 127
  10   5-1-097  2 Note        0-  72 A#4=  82 127
  11   5-2-001  2 Note        0-  72 A#4=  02 127
  12   5-2-097  2 Note        0-  72 A#4=  82 127
  13   5-3-001  2 Note        0-  72 A#4=  82 127
  14   5-3-097  2 Note        0-  72 A#4=  82 127
  15   5-4-001  2 Note        0-  72 A#4=  82 127
  16   5-4-097  2 Note        0-  72 A#4=  02 127
  17   6-1-001  2 Note        0-  72 G#4=  80 127
  18   6-1-097  2 Note        0-  72 G#4=  80 127
  19   6-2-001  2 Note        0-  72 G#4=  80 127
  20   6-2-097  2 Note        0-  72 G#4=  80 127
```

The screen layouts are easy to understand. The Track Display controls comprise most of the screen in both modes. The Sequence Mode screen displays each Track Number, a user-definable Track Name, a user-definable MIDI Device Name, the MIDI channel number, the track start time, the track end time or duration, a set of History flags, pitch transposition, and muting. Most functions can be accessed with either the mouse or a hot-key combination. The Song Mode screen shows the Sequence's name, pitch transposition, repeat, and muting settings.

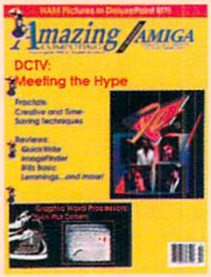
The right side of each screen has a set of buttons that affect your tracks once they are recorded. At the top of the column on the Sequence Mode screen is a place to enter a name for the Sequence. Directly below that is a letter — A through z — identifying the sequence. One way in which the letter can be changed is by clicking on either of the arrows to the right and left of the letter.

The buttons underneath are labeled Song Mode (toggles between the Sequence Mode and the Song Mode), MIDI Thru (changes the MIDI channel of the information coming into the Amiga to another channel), Undo (reverses the last action performed), Delete Track and Copy Track, Solo (for hearing only one track) and Multi (for hearing a user-definable selection of tracks), Edit (moves you to the Edit screen), Track Memo (a small text screen), Slide Track (a way to change the start time of a track), and Quantize Tk (lets you "correct" any timing problems in your performance).

In Song Mode the buttons are labeled Seq Mode, MIDI Thru, Insert (makes space for a new sequence in the middle of the song), and Delete (removes a sequence). All these functions, except Track Memo and Multi in Sequence Mode and Insert and Delete in Song Mode, can be accessed with hot-key combinations.

➛

If you missed this issue of AC ...



... there's still a lot you *don't* know about the state of the art of Amiga video.

Following up on his superb Video Toaster review in March, professional video consultant Frank McMahon presents his in-depth findings on Digital Creations's new video display and digitizing system in April.

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The bottom quarters of both screens hold the Register buttons (user-definable cue points), the Q'Save button (quick saves the current sequence to disk), the Environment button (brings up a window where you can define MIDI channel assignments, type of time display, whether or not you'll have automatic file backups, etc.), time signature, tempo slider and metronome, sync button (internal, external or key), and the standard set of tape recorder-type buttons for moving through the sequence (run, fast forward, punch, loop, count in, etc.). Once again, most of these functions can be accessed through hot-keys.

AN IMPROVEMENT TO HARMONI WOULD BE THE ADDITION OF SMART REQUESTERS, ONES THAT REFLECT THE ACTUAL DEVICES MOUNTED AND AVAILABLE.

There are a number of features that set Harmoni apart from the rest of the pack and make it nifty to use. While you can only undo one thing at a time, each sequence screen has its own undo buffer. You can set up tracks to display where the last event ends or to display how long a track is (duration).

Harmoni makes it easy to do the everyday things a MIDI composer needs to do. The program uses a "click, hold and drag" type of interface that is a joy to use. Want to change the MIDI channel on Track 3? Click once on Track 3 to select it, click on the number in the column marked "CH", and drag your mouse up or down. The numbers change as you drag. When you reach the new MIDI channel number, let go of the mouse button. It's that simple. You can change sequences, change values in the Event List Editor, and slide the start time of a track all by grabbing the number and pulling it to the new value you want. Holding the shift key while you're dragging speeds things up considerably if you have a long list to scroll through.

Editing is done with the aforementioned Event List Editor. The Editor displays the Event number, the time the Event starts, the MIDI channel, the type of Event (note, control change, etc.) and, if it's a note Event, the duration of the note, the pitch, and velocity. Other Events have appropriate information in these columns. I must admit to preferring, in general, event list editors over graphic editors, so I'm right at home with the Harmoni approach. I find graphic editors best suited for large-scale changes and event list editors better suited for detail work.

Harmoni addresses the "large changes" issue with the concept of the Region. Large-scale changes can be made by defining a Region, and then performing an operation on that Region. Once a Region has been defined, most actions you'd like to perform (deleting, copying, quantizing) can be done with a few clicks. Regions can be defined by highlighting an area in the Event List or entering a beginning and end time into the In and Out registers. Unfortunately, Harmoni cannot transpose or change MIDI channels by region.

The manual is very good — not to mention rather humorous at times (I can't say I've ever had to produce a piece of music for aliens, as you will in the tutorial). The writers have somehow managed to create an instructional work that walks the beginner through everything in easily understood steps without making the more experienced user feel like he's wading through old stuff. Jamie Krutz and Tim Tully are to be commended on writing a clear, easy-to-understand document.

An improvement to Harmoni would be the addition of smart requesters, ones that reflect the actual devices mounted and available. Harmoni insists on loading and saving to the appropriate subdirectory (sysex, songs, whatever) in the Harmoni directory. I can't assign a different drawer for my files on startup. I've even gone into Harmoni with a hex editor desperately trying to tell it where to look for my data.

(continued on page 78)

M.A.S.T.'S

Parallel Port SCSI Adapter

by Dan Michaelson

If you own an Amiga 500, you probably bought it because you didn't think you'd need the extra expandability offered by the 2000, and didn't want to pay the extra money. But if your hunger for power is increasing and your income isn't, maybe now's the time to begin exploring the options available for inexpensively adding a hard disk drive. I'm pleased to report that I have found such an option in the form of the Parallel Port SCSI Adapter by Memory and Storage Technology (M.A.S.T.). What's more, it's compatible with the A2000, should you decide to upgrade later (it's also compatible with the A1000).

THE PARALLEL CONNECTION

As its name suggests, the Adapter doesn't plug into the bus like most other SCSI interfaces for the 500; instead, it plugs into the parallel port. It sports a pass-thru port for your printer. Operation is completely transparent once you mount the special device driver.

There are only two disadvantages to putting a SCSI interface on the parallel port. First, it's not as fast as the bus. M.A.S.T. claims a transfer rate of around 250K/second. This is still blazing compared to floppies. Second, although the pass-thru works like a charm with printers, it will not allow you to plug in a digitizer or other type of peripheral to the parallel port.

POWER HUNGRY

Just as you are, the Adapter is hungry for power. Since the Amiga 500 doesn't supply any power through the parallel port, you must connect a supply to the Adapter yourself (this does not apply to the 1000 or 2000, which supply their own power). This is a little tricky. However, the one-page mimeographed schematic enclosed with the interface is not sufficient instruction to do the job. I figured it out with a little help from the courteous folks at M.A.S.T. *[Typically, M.A.S.T. sells the Adapter as part of a complete package that contains, in addition to the Adapter, a hard drive, power supply, cabling, and software. Such complete packages, according to a M.A.S.T. spokesperson, come with exhaustive documentation. —Ed.]*

You'll need a +5 volt signal, and a ground from the same source. Your hard drive requires 5 volts, so it's likely that whatever is powering it will also do for the Adapter. JDR Microdevices offers a wide variety of supplies. Anything over around 30 watts will do to power both the hard disk and the Adapter, but you can never have too much power! The Adapter's draw is negligible, so feel free to solder a two-conductor wire onto the same place your power supply's connector is attached. Since the Adapter's draw is so small, you won't need heavy gauge wire, no matter how strong your power supply. String this wire over to the Adapter. Then you'll have to solder it onto the Adapter.

The schematic/instruction sheet recommends putting the +5v into pin 25 of the SCSI port itself and ground into pin 24, but this isn't feasible since there's a cable already plugged into the port. However, I found two locations that shouldn't present a problem for even the most inexperienced solderer (i.e., myself). *[Please note: It it strongly recommended that only those individuals with technical expertise attempt any project involving the modification of hardware. Neither Amazing Computing nor Mr. Michaelson can assume responsibility for any damages incurred as a result of undertaking this upgrade modification. — Ed.]*

First, remove the Adapter's circuit board from the case. This is accomplished by unscrewing the hex nuts on either side of all the DB25 connectors. Now locate the R1 resistor in the corner of the bottom of the board (the side with the single DB25 connector). Solder the +5v onto the lead of the resistor closest to the corner. Now turn the board over so the side with the two DB25 connectors is up. Look at the DB25 connector that plugs into the 500's parallel port (the one mounted on the edge of the board). You'll see that pins 17 through 25 are all soldered together. Just melt this solder a little, add a little solder of your own, and attach your ground to this conglomeration.

Since the R1 resistor is so close to the edge of the board, the wire may have a little difficulty exiting. To accommodate it, bend up the back of the case a little bit with a pair of pliers. Then put the board back in and you're all set!

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RUNNING CABLE

Since the interface operates at high speed by parallel port standards, there are some restrictions on cable length. The most limiting is the length of the cable between the computer itself and the interface. I am told that on some computers, especially newer ones, this can be up to three feet, and a switchbox may be used, allowing you to use a digitizer. However, I was unable to make it work with any cable at all; I was forced to plug the interface directly into the back of the computer.

The SCSI connector is DB25 female, just like a Macintosh's. I am told that although some people are limited to six or seven feet between the interface and the hard disk, some are having no problems with 32-foot cables. I certainly am having no problems with four feet.

Finally, the printer pass-thru is the same connector as the A500 or 2000 parallel port. Length doesn't seem to be that much of a factor here; I have seven feet of cable between the Adapter and the printer. Note that it is *not* an A1000-type connector: you must use an A2000 printer cable, not an A1000 printer cable, or you can damage the interface.

The Adapter will work with any standard SCSI hard drive. Probably the least expensive way to purchase a hard disk is to buy the hard disk mechanism itself and the power supply separately (mail order houses will usually have a good selection at reasonable prices). See above for power supply requirements.

ASSEMBLAGE

Now that you've got your power supply, your interface set up, your cables, and your hard disk, it's time to put it together. The Adapter plugs into the back of the 500 the only way it'll fit. The SCSI cable plugs into the DB25 connector farthest from the computer and goes to the 50-pin connector on your SCSI mechanism. The printer cable plugs into the DB25 connector closest to the computer. The single connector on the bottom of the Adapter is the connector you use to plug the interface into an A1000, instead of the connector on the side of the interface used for the A500.

Plug one connector of the power supply into the J2 power connector on the hard disk. The power supply should also be attached to the Adapter, as described above. Remove all jumpers from the hard disk; it should have a SCSI ID of 0, and parity should be disabled. The hard disk's manual describes how to do this. You should leave the resistor terminator on, though. (This assumes you aren't daisy-chaining multiple hard drives, which can be done with the appropriate cables and jumper settings.)

The only other item you might desire is some sort of case in which to place the hard disk and power supply. (Personally, I find that an upside-down milk crate works quite well and doubles as a handy printer stand). Alternatively, you can shun the whole idea of buying a mechanism and power supply separately and buy a (usually more expensive) prepackaged hard disk with everything but the interface, such as one intended for an Amiga, Mac, or Apple II. M.A.S.T. offers a full line of "Tiny Tiger" hard drives, which also eliminates the need to solder a power connection to the Adapter, because the required voltages are sent through the SCSI cable to pins 25 and 24 for you.

DRIVING THE NEW HARD DRIVE

A hard disk system interfaced with the Adapter cannot autoboot since you must first mount the special driver. M.A.S.T. supplies a boot disk for this purpose. Although it sounds inconvenient, in reality one can just keep the disk in the floppy drive and it adds only 10 seconds or so to the boot-up process.

In order to mount the hard disk, you must edit the mount list, a process not mentioned in the documentation supplied by M.A.S.T. (this article is partly intended to rectify that). To do so, from your old Workbench disk, edit DEVS:MOUNTLIST on the M.A.S.T. boot disk. Find the entry for DH0. Change the "Surfaces" parameter to reflect the number of heads of your hard disk. Change the "BlocksPerTrack" parameter to reflect the blocks or sectors per track on your hard disk.

Finally, LowCyl and HighCyl are the first and last cylinders of the hard disk that will be accessed by DH0:. If you want only one partition, set LowCyl to 0 and HighCyl to the total number of cylinders of your hard disk. If you wanted, say, two partitions, set LowCyl in the DH0 entry to 0, HighCyl in the DH0 entry to half the total number of cylinders, LowCyl in the DH1 entry to half the total number of cylinders, plus one, and HighCyl in the DH1 entry to the total number of cylinders. Be sure that there is not a /* before and a */ after the DH0 (or DH1 or DH2, if you're using them) entry, as these designate the entry as being just a comment (i.e., disables it).

To determine the number of heads, sectors per track, and cylinders in your hard drive, consult the hard disk manual, or contact the manufacturer's technical support system.

➛

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Once you've created your mountlist, MOUNT DH0: and then FORMAT DRIVE DH0: NAME MyHardDisk QUICK FFS. It shouldn't take long. Now copy your Workbench onto DH0:. Now whenever you boot the M.A.S.T. boot disk, it will boot fairly quickly to your hard disk.

WRAPPING IT UP

A hard disk's speed and convenience will make new users wonder how they ever got along with floppies. The M.A.S.T. Parallel Port SCSI Adapter has proved to be an inexpensive and reliable way to attach a hard drive to an A500. Although it isn't quite as fast as other interfaces, and it may preclude using peripherals such as digitizers on some systems, the parallel port is nonetheless an interesting place to put a hard disk interface, and in some ways is more appealing than a clunky box attached to the side of the computer. The Adapter should be considered by anyone who is looking to add storage to his Amiga 500, and who is not averse to a little soldering. •AC•

Parallel Port SCSI Adapter
Price: $99.00
Inquiry #222
Memory and Storage Technology
1395 Greg Street
Sparks, NV 89431
(702) 359-0444

Please write to Dan Michaelson c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

(*Harmoni*, *continued from page 74*)

While there are many hot-key combinations, there could be more. As a matter of fact, without MachIII to make up my own hot keys for the mouse-only menu selections, I'd be less happy with the program. I can't scale tempo in a Region or sequence. While Harmoni will record pitch bends, MIDI controller 7 (Volume) and other gradual control changes, there is no simple way to edit them, or enter them by hand. If I decide I want to add a crescendo to a Track or Region, I have to re-record it, or record just the controller information live.

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You can't thin controller data. It would be nice to be able to prequantize a track—like a drum machine can do in drum track programming. It would also be nice to have quantizing within a percentage of a value (e.g., any note that falls within 35% of an eight note isn't quantized). There's no graphic editing or support for the Amiga's internal sounds (a curious omission for a program written on the Amiga). You can't append sequences easily. You can't imbed sysex changes in a Sequence, though it does let you save sysex files to disk.

While it's true that Harmoni is lacking in the above-mentioned areas, the program does what it does very well. It handles the basic functions smoothly and logically, and the intuitive feel of the "click and drag" interface is addictive.

This is not to say that the program answers all my needs. There are many features it lacks, thereby forcing me to use other programs for specific tasks. The 24-track limit stops me cold when I have to import a large MIDI file. I also have to store my work as a MIDI file and input it into another program to use MIDI Time Code since Harmoni doesn't support this feature.

Very few sequencing packages on the Amiga are geared toward the working recording musician. Many are either intended for the hobbyist, or are so comprehensive and complicated, that I have a hard time working quickly and efficiently with them in production. I've worked with most sequencers available for the Amiga. While some of them have more powerful features, none makes it as easy to record and access user input as Harmoni. •AC•

Harmoni MIDI Sequencer
Price: $99.95
Inquiry #226
The Disk Company
11022 Santa Monica Blvd. Ste. 440
Los Angeles, CA 90025
(213) 478-6767

Please write to Rick Manasa c/o Amazing Computing, P.O. Box 869, Fall River, MA 02722-0869.

A PREVIEW OF THE ROOMY, REMARKABLE AMIGA 3000T

SITTING IN AN IVORY TOWER

BY ERNEST P. VIVEIROS, JR.

Not that the Amiga 3000 isn't already a remarkable machine, mind you. With its 32-bit architecture, enhanced chip set and the new 32-bit ZORRO III bus, the A3000 provides lots of outstanding performance—even when it is loaded with active expansion devices.

The Amiga 3000 also provides plenty of *horsepower* for additional devices, such as hard drives and 24-bit graphic display cards. Unfortunately, what is long on power is a bit short on *space*—that is, you may not have any room left in the box for those devices! Indeed, the Amiga 3000 has very few limitations—but one of them is its shortage of expansion peripheral space. The A3000 is packed into an awfully small box for a power user with big system-expansion plans.

MORE ELBOW ROOM

Anticipating the demand for more expansion capacity in an Amiga 3000 system, Commodore has designed the Amiga 3000T. The Amiga 3000T embodies a newly designed Amiga 3000 architecture motherboard housed in an roomy upright tower, and there is *lot*s of room for expansion here! The Amiga 3000T can house five externally accessible devices (floppy drives, tape drives, CD-ROMs, etc.), two internal full-height devices (hard drives, etc.), and four internal half-height hard drives. The Amiga 3000T also sports five ZORRO III slots for plug-in cards (PICs), four PC slots (for 16-bit PICs), and one Fast slot for processor expansion.

BUT WHAT'S INSIDE THE BOX?

The standard Amiga 3000T is planned to ship with 25 MHz 68030/68882 processors and 5MB RAM (4MB Fast RAM/1MB Chip RAM). The standard Amiga 3000T will also come with a built-in DMA SCSI controller and a 100MB, 3.5-inch SCSI internal hard drive.

The A3000T will provide two video output interfaces: DB23 15 KHz RGB analog (standard Amiga monitor) and DB15 31 KHz Multiscan (VGA compatible/RGB analog). This widens your choices for a monitor, as there are hundreds of good VGA monitors on the market.

Plans also call for the A3000T to have built-in Display Enhancer circuitry which will produce flicker-free screen output in selected graphics modes (requiring a multiscan-type monitor). This arrangement leaves the video slot free for other video devices. The new ECS (Enhanced Chip Set) circuitry will support two new video modes: Productivity and Superhires (under AmigaDOS 2.0 only). The Display Enhancer is almost a necessity when using these super-sharp screen modes.

> "WE EXPECT THAT THE AMIGA 3000 TOWER WILL BE PRICED A *MINIMUM* OF $1,000 HIGHER THAN ANY OF THE CURRENT A3000 CONFIGURATIONS."
>
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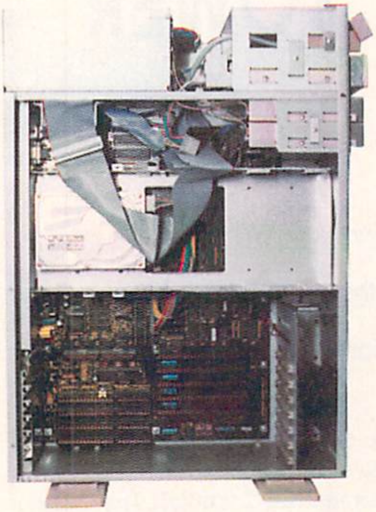

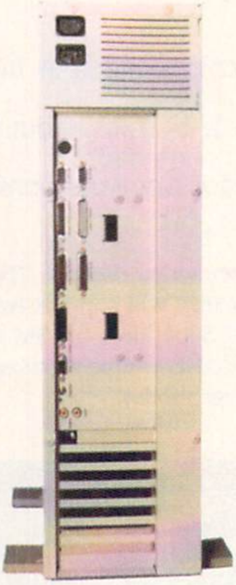

above: A view inside the side of the A3000T reveals a newly designed A3000 architecture motherboard, built-in hard and floppy drives, etc.—plus *lots* of system expansion connectors and *loads* of extra space!
right: Rear view of Commodore's magnificent A3000T "ivory tower".

KICKING THE TIRES

How sturdy is the case? Exceptionally so. The A3000T we have seen is solid, such construction being a prerequisite for any freestanding piece of equipment. Commodore backs the physical integrity of the case with a heavy-duty 280-watt power supply that comes with its very own cooling fan. Additionally, there is another fan used to help cool the *interior* of the case. A few hard disks, lots of RAM, and a slew of PICs can bring up the temperature inside the case to over 150 degrees Fahrenheit.

BRASS TACKS

Overall, the Amiga 3000T proves to be a solid, expandable platform aimed at the high-end Amiga user and professional markets. So what are all these wonderful options going to cost the end user? Since the A3000T has not yet been released, pricing information has not yet officially been made available. But one Commodore official we spoke to in April made it clear that the A3000T will list at a *significantly* higher price than the A3000.

"We expect that the Amiga 3000 Tower will be priced a *minimum* of $1,000 higher than any of the current A3000 configurations," said David Archambault, director of business marketing at Commodore Business Machines, Inc.

As of this writing, availability is projected to be near the end of this summer. Until that time comes, save your pennies!

•AC•

AMIGA 3000T TECHNICAL SPECIFICATIONS

CPU/Coprocessors
Motorola 68030/68882 (25 MHz)
Multi-chip coprocessor system for DMA, video, graphics, and sound.

RAM/ROM Memory
5MB RAM (1MB Chip/4MB Fast)
RAM expandable on motherboard to 18MB (2MB Chip/16MB Fast)
512K ROM.

Basic External Interfaces
Keyboard
Two (2) Mouse/Joystick
Serial (RS232/PC Compatible)
Parallel (Centronics/PC Compatible)
Two (2) Video: (DB23 15 KHz/RGB analog)
(DB15 31 KHz/MultiScan VGA-compatible RGB)
Stereo Audio—four sound channels in two stereo channels (2 RCA jacks).

Internal Interfaces
Amiga System Bus: (5) slots (100-pin Zorro II & III)
Secondary System Bus: (2) slots/PC compatible in-line with Zorro slots (98 pin/16-bit)
Two (2) additional PC slots (98 pin/16-bit)
One (1) Fast slot (local 68030 bus)
One (1) Video slot (in-line with Zorro III slot).

Disk Drives—Standard
Built-in 3.5-inch 880KB floppy drive
Built-in hard drive
Built-in DMA SCSI controller (supports up to 7 SCSI devices).

Additional internal mounting capacity for:
One (1) 3.5-inch floppy drive or device;
Three (3) 5.25-inch floppy dries or devices; and
One (1) hard drive (two, if stacked together).

Optionally connect up to three external floppy drives

Video display complies with RGB NTSC and RGB PAL (4096 colors).

Switching 280-watt power supply, with dual-speed thermostat controlled fan.

Battery-backed clock/calendar.

Detachable keyboard (94 keys U.S./96 keys international)
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Optomechanical, two-button mouse.

SCALA

The Presentation System

Powerful Presentations in a Snap

by Ernest P. Viveiros, Jr.

Scala is a complete system for producing presentations. Scala includes editing and display functions—along with enough backgrounds and typefaces to handle most presentation needs. All you have to do to create a basic presentation is to choose a background from the supplied library, and place some styled text on the picture. Create all your events (screens) this way. Now choose from the multitude of transitions between screens and RUN! That's it...well almost, but you get the idea. Scala is smooth, very intuitive, and extremely easy to use. Let's look at the Scala Presentation System a little more closely.

THE BASICS

Scala consists of three major menus or functions. The main menu is where you can both see and change, delete, copy and move your events. The file menu is where you load backgrounds, objects, scripts, animations, etc. The text menu is where you write and style text (just like a word processor) on the background picture. All the menus are similar in design and function, making for a smooth, consistent, and easy-to-use interface.

THE MAIN EVENT

Backgrounds, typography, and transitions are the three basic elements that make up events, or presentation screens.

BACKGROUNDS

The first step to creating an event is to select a background, using the file menu. Scala comes with a wide range of backdrop images (five disks worth!), including various textures like stone, marble, fabrics, clouds, and paper. Can't find a backdrop that suits your needs? You can supply your own backdrop. Scala will accept most IFF ILBMs as backdrop images, plus there are a few vendors that specifically create backdrop images for presentation/titling packages. If you like the image, but not the color, Scala incorporates an excellent palette tool that will allow you to adjust the palette to your preferences. You can even save and load palettes!

TYPOGRAPHY

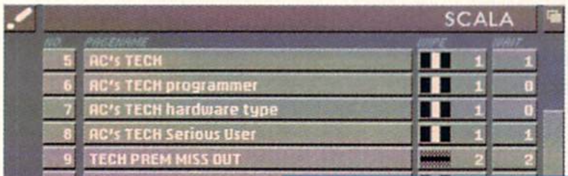
Once you have selected your background and it's to your preferences, it's time to place text. Text is easily added and styled using familiar word processor-style tools. Scala comes supplied with a number of classical and readable typefaces on two disks, including sans-serifs, classical, and neo-classical serif faces of different weights and sizes. Scala can also use any of the many video screen fonts available on the market. Among the attributes you can add to text are tilt, bold, italics, underline, drop shadow, 3-D effects, and color. You can also move your text around the screen easily with the mouse, using a move mode.

After your text has been input, styled, and placed, you have the option of selecting how your placed lines of text come into the backdrop. Just click on the line of text, and select from one of the many supplied element transitions such as fade-in, or in-from-left. Of course, you have the option of having static text.

SCREEN TRANSITIONS

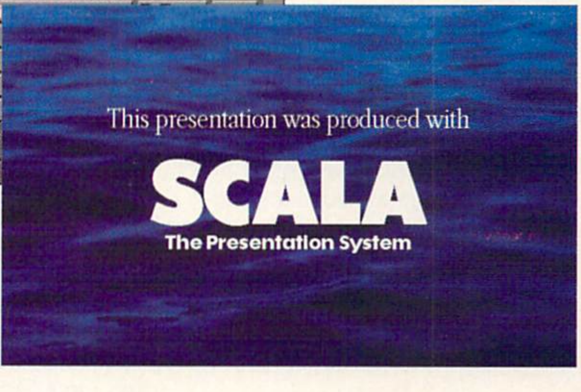
Once your backdrop and text are finalized, it's time to choose a screen transition. Scala comes with a set of screen transitions which include fades, wipes, blinds, colorfades, checkerboards, etc. You can also select the time in seconds between individual events. You're almost ready to roll!

➛



NO	PAGENAME	WIPE	WAIT
5	AC's TECH	1	1
6	AC's TECH programmer	1	0
7	AC's TECH hardware type	1	0
8	AC's TECH Serious User	1	1
9	TECH PREM MISS OUT	2	2
10	What's in AC's TECH Premi		
11	TECH 1.2 Get Yours		
12	What's in AC's TECH 1.2		
13	TECH SPECIAL COPY		
14	TECH SPECIAL SUB		

(left)
Scala Main Menu where you can see, change, delete, copy, and move your events.



(right)
Sample event create with Scala

ANIMATIONS

In many cases, you may want to include an animation file in your presentation. Scala will handle that with no problems. First, be sure that your animation is a real ANIM file, like the type created with DeluxePaint III. When you create a new page, instead of loading in a background, load in your animation. Scala allows you to change playback speed, number of loops, change color, etc. You can even place text on your animation. It couldn't be easier. The only drawback to adding ANIMs to your presentation is RAM consumption. ANIMs are RAM guzzlers.

RUN!

Once your events are created, it's time to show your presentation. Hit the RUN button, and you're off. Want to change a particular event? Just click on the modify button, then choose the event in the event list. It's that simple.

When you're happy with your presentation, you may choose to create a run-time disk for the presentation. The create run-time option will create a stand-alone bootable diskette that will run your presentation on startup. Scala-created run-time disks are freely redistributable.

BUTTON UP

Although Scala is most often used as a passive presentation tool, it can also be used to create interactive presentations. Scala includes the ability to create active button areas on individual event backdrops. These buttons can be set to bring up other events when clicked, thus creating an interactive presentations. While any presentation should be planned before starting, it's especially important to plan interactive presentations. They can become very complex to manage, when not properly planned.

VIDEO AND PAPER

Can Scala be used as a video titling tool? Sure! Just hook up a genlock and use some high quality video fonts and Scala could be a contender for easy video titling or illustration. Scala outputs nicely to any video output device that you can connect to an Amiga.

One feature missing from many presentation packages is the ability to easily make paper hard-copies of the presentation. Scala comes supplied with a separate application, ScalaPrint. ScalaPrint allows you to choose between several page formats, and supports any preferences printer—even color printers! Also, for high-quality hard copies, ScalaPrint supports PostScript output. Use your hard copy to prepare your notes for the presentation.

UNDER THE HOOD

Scala is built around a very powerful and flexible scripting language called VISUAL. Every Scala script is actually an ASCII textfile, editable in ED or any other text editor. Although you will primarily create your scripts via the wonderful Scala user interface, you can create scripts by programming directly in VISUAL. This opens up a vast number of possibilities. Think about an ARexx script that questions the user about a company, and then creates a VISUAL script file, for a Scala presentation about that company. The possibilities are limitless.

OTHER NICETIES

Scala does include a flawless harddisk installation utility. This is quite handy considering that Scala comes on eight diskettes. For the keyboard command junkies, nearly all the buttons on the menu screens in Scala have command key equivalents. Scala also has may user definable system preferences such as screen color, user levels, number of loops, pointer preferences, close workbench, etc. There is also a facility to watch the amount of available memory—disk and RAM. Also, you should note that Scala does multitask. However, you cannot switch to another screen while a presentation is running.

MANUAL CRITICISMS

Although you can't say much against the current version of Scala, I do have a few criticisms about the manual. The manual is well written and comes in a beautiful binder. However, the manual is primarily written for the beginning Scala user (it does a good job!), as it lacks a meaty reference section as well as an index for the more experienced users. My big complaint is that it contains very weak documentation on the VISUAL language, as it barely lists the VISUAL commands and their arguments. It seems to me that there should be a major VISUAL reference section, including a tutorial in programming in VISUAL. I respect Digital Vision for their decision in bundling a basic tutorial manual. After all, Scala is so easy, you really don't need a manual right? Right! But nevertheless, a good manual is essential.

WHAT'S MISSING?

One important feature missing from the current version of Scala is the ability to play sound & music files. According to sources at GVP, the next Scala update will include the ability to play 8SVX and other sound & music files. One feature I would like to see in Scala is a built-in facility to quickly and easily create professional quality charts and graphs. This could easily make it a player in the business presentation market. Finally, as a big wish, I hope that in the future Digital Vision adds the ability to control a video disc player and other external video sources.

FINIS

It is clear that Scala is a top drawer presentation package. GVP and Digital Vision are committed to updating and supporting Scala and its users. If you need to produce professional-quality presentations, and have been traumatized by the complexity of other presentation packages, then look no further. Scala is the presentation system for the Amiga user.

•AC•

Scala The Presentation System
$395.00
by Digital Vision

Distributed in the US by
GVP (Great Valley Products)
600 Clark Avenue
King of Prussia, PA 19406
(215) 337-8770
FAX (215) 337-9922

Requires Kickstart 1.2 or greater, and minimum 512K FAST/1MB CHIP RAM. For large presentations, minimum 1MB FAST RAM and hard disk recommended.

ROOMERS

[The statements and projections presented in "Roomers" are rumors in the purest sense. The bits of information are gathered by a third-party source from whispers inside the industry. At press time they remain unconfirmed and are printed for entertainment value only. Accordingly, the staff and associates of Amazing Computing cannot be held responsible for the reports made in this column.]

THE BANDITO ALWAYS TRIES to keep at least one optical sensor on the future, to let you know what may be happening to your favorite computer in the years ahead. One of the interesting technologies that's finally maturing is the color LCD screen. The Bandito, ever fearless when it comes to making predictions, thinks it's a sure bet that within five years most of the new computer monitors being sold will be color LCD screens instead of bulky old cathode ray tubes. The new screens being shown by Sharp and other companies offer 640 x 480 resolution with millions of colors. The problem is the price; it's still many thousands of dollars. Yields are still low; these new screens are essentially like one giant integrated circuit, and, over an area that large, many flaws can be expected. So there's a very high reject rate in manufacturing, which translates to a high price.

Eventually they'll solve the manufacturing problems, and then color LCD screens will drop in price until they're even cheaper than CRT's. LCD's are an inherently less expensive technology — once it's mastered. No annoying radiation either. And it makes a portable Amiga even easier to build! The Bandito's breath is being held...

THAT'S ENTERTAINMENT

THE ENTERTAINMENT SOFTWARE business, as always, is filled with good and bad news. The recession has slowed down sales, and some of the weaker companies have been hard hit. On the other hand, a few firms with hit products are growing fast. You want some good news first? OK, here it goes. Maxis Software, authors of the best-selling *SimCity*, are bringing out their new *SimEarth* game for the Amiga. It should be out by this fall, and from hearing the scuttlebutt, The Bandito expects another hit product. These guys are on a roll, and apparently they have some very different games in the works, too.

On the CDTV front, *Sherlock Holmes, Consulting Detective*, from Icom Simulations sports full-motion digitized video. The Bandito's professional opinion: it looks neat...It's hoped that the game is fun, too, but the early version at CES was a little too early to tell that. Look for it this summer, though.

The Bandito hears that some of Access Software's "interactive movies" are coming to the Amiga this summer. These games have almost incredible amounts of digitized artwork; in some cases they have actually built miniature sets and digitized them. The Bandito expects these games to come out for CDTV at some point.

And for you simulation fans, LucasFilm's *Secret Weapons of the Luftwaffe* should be out this summer for the Amiga. Then you can expect to see *Secret of Monkey Island* coming for the Amiga soon; it's a humorous adventure game. Hmm, lots of secrets from LucasFilm...what could they be hiding?

And the poor get poorer. The saga of Cinemaware has come to a close; the company is no more. They were unable to continue in business and have decided to fold up. But the remnants of the organization will become a software development group under a new name. Some interesting notes about their downfall that The Bandito has heard: it seems that Cinemaware was almost bought by Columbia pictures, but the deal was nixed after months of negotiations. Seems someone back in Japan (remember, Columbia is owned by Sony) killed the deal.

C++

The Bandito hears that SAS, the company that owns Lattice, is working on a completely new version of C++ for the Amiga. Expect to see it by the summertime. Object-oriented programming is the wave of the future, according to programming experts. It makes programming easier and faster. Of course, purists object that it isn't very compact code, nor does it get the very best performance out of the machine in all cases. On the other hand, when you have a 68030 machine and your application isn't very demanding, then why not?

SPOTTING THE COMPETITION

NINTENDO'S NEW SUPER FAMICOM videogame machine is a real winner. As good or better than the A500 in raw hardware power, which is the first time that's ever happened. The Bandito is sorry to see it happen, but what do you expect when the Amiga's graphics and sound capability hasn't changed a bit since the introduction six years ago? It was inevitable that someone would come out with a lower cost, higher-quality box. Of course, Nintendo is the most dangerous opponent of all in the computer business. Their new machine certainly poses a threat to the Amiga; let's take a closer look.

The U.S. version of the Super Famicom will be called the SFX. The basic hardware setup is similar to the Nintendo Entertainment System (NES); a small box that holds the computer chips where you can plug in your cartridges, two controllers, and standard TV output. But this box is different. Sleekly styled, the SFX contains special graphics coprocessors to handle scaling and rotation of backgrounds at eye-popping speeds. Up to 2,048 colors can be displayed at once on screen (with no HAM-like tricks needed) from a palette of 4096 in 512 x 442 resolution (that's full overscan, by the way). And 8-channel stereo sound, with reverb and digitized sound capabilities. Up to 128 sprites. Four independently scrolling backgrounds. A transparency effect for some colors to create special effects. The main CPU is said to be a 65816 chip, the same 16-bit version of the 6502 that's used in the Apple IIGS.

So why does the SFX use such a brain-dead CPU as the 65816 (the same as in an Apple IIGS) when a 68000 is better and cheaper? The Bandito believes the issue is control. Nintendo doesn't want to be at the mercy of their suppliers. Undoubtedly, Nintendo has the rights to manufacture the 65816 themselves, and probably they've modified the chip somewhat so it's unique to them. Nintendo doesn't want anyone to cut off their supply of hardware, as they've done in manufacturing cartridges for others. Though apparently they're loosening up, perhaps in response to pressure from the Justice Dept. over the anti-trust issue.

Anyway, SFX carts should be 1 megabyte (8 megabit) in size or larger, and a CD-ROM player is expected to arrive in 1992. The SFX is priced at $189 without controllers or power supply; you can use them from your NES, but Nintendo expects people to come back and buy their new controllers (which have four buttons instead of two, so you'll need them to play some games).

But Nintendo still doesn't expect to turn this puppy into a home computer, because it won't offer a hi-res screen or enough expandability. Where does this leave the A500? Well, clearly the SFX has some superior features for most games. But the A500 still has the advantage of expandability, a wide selection of graphics modes, and of course the capability to run all sorts of software. So the A500 should be the home computer for the 1990's. The new 500c bundle (which includes the TV adapter and Textcraft Plus) is a winner, especially at a price point of well under $500. This is a better deal than any other computer, even a cheap PC clone. Now if only Commodore can make that fact apparent to the world...

Oh, yes, one more thing. The SFX won't have much software to begin with. But major companies are beginning SFX software development; Electronic Arts will invest heavily, The Bandito hears. Expect to see many Amiga titles making the transition to the SFX and looking remarkably similar. But it will take years before the SFX can match the array of games for the Amiga.

ANTIC'S PLUS IS A MINUS

TIMES ARE TOUGH IN the ever-cutthroat Amiga magazine business. Antic's Amiga Plus has called it quits, and they have sold their subscriber list to AmigaWorld. The owners are trying yet again to find another market; they've apparently started a magazine called the PC Home Journal for Messy-DOS users. Strangely, the staff list looks very much like the old Amiga Plus staff, and The Bandito hears that they're desktop-publishing the magazine on Amigas. Gee, you'd think they'd use an Atari ST...

COMMODORE STOCK

COMMODORE STOCK has been headed for the skies recently. The Bandito noticed that it hit 18 and is heading higher on strong overseas sales news and CDTV fever. Where will it stop? The Bandito thinks it'll peak at 20, if not before. Time to wait and see if all this financial anticipation is really justified or not.

The Bandito hears that Commodore, once dominant in the home computer market, is third these days. A recent study by Infocorp showed that IBM compatibles have the biggest share of the home market, a total of over 54%, while Apple has about 20% and Commodore has 18%. And the trends are upsetting; Commodore's share sank 3% in 1990, while the IBM compatibles went up by 7% (Apple's remained unchanged). Perhaps there were some good reasons for Commodore to shake up their management once again. It can't hurt...

•AC•

Practical Modula-2
Buffered Disk I/O

by Michal Todorovic

Disk I/O is usually the slowest part of any program. How often have you found yourself listening to the gronking of your floppy, waiting for it to be done so you could continue your work? In most cases, disk access speed can be improved dramatically. One method to accomplish this is to buffer file input and output. In this article, I will talk about a buffered file system, and provide its complete implementation in Benchmark Modula-2.

The Theory

Basically, a buffered file system reads and writes data in large blocks. It places the read/write data into a buffer, and only reads/writes the data when the buffer fills. This method assumes that it is better to read/write a few large blocks than many small ones. Buffered file input and output works best when reading or writing consecutive pieces of data. Examples would include a word processor or a spreadsheet that is saving the contents of memory to disk. However, in some cases a buffered file system can slow down disk access. A disk-based database may jump over large parts of the file, only reading in a few bytes here and there. A different algorithm would have to be used in this case.

BufFileSystem will have the greatest impact on the performance of those programs which read/write many small pieces of data to the disk. It will have an even greater effect on those programs that can be re-written to write blocks of data at a time.

Why Use BufFileSystem

Every Modula-2 compiler comes with the standard MODULE FileSystem. In Benchmark Modula-2, FileSystem is a buffered file system. So why go through all the trouble of changing your code to work with BufFileSystem? The reason is speed. While Benchmark's FileSystem works if your algorithm requires you to read/write one character at a time, deficiencies appear when I/O can be done with more than one byte at a time. Every byte written to a file requires a procedure call, which uses up large amounts of CPU time. BufFileSystem not only provides most of the functionality of FileSystem but excels at writing larger blocks. I've Benchmarked the two file systems with a program that writes the string "This is the Text\n" to the RAM: disk 10,000 times using my routines and those that come with Benchmark. Here are the results (run on an stock Amiga 500 with 1 megabyte of memory):

```
Word          12.73 seconds
BufWord        8.94 seconds
BlockWord      2.35 seconds
```

Word writes the text one CHAR at a time using Benchmark's FileSystem. BufWord uses my new and improved BufFileSystem; however, we still write only one CHAR at a time. BlockWord writes the entire string (17 characters) at one pass. BlockWord was more than five times faster than Word, and almost four times as fast as BufWord. From this example, we can see that a buffered filesystem in conjunction with writing data out in blocks resulted in a large performance increase. The source to Word, BufWord, and BlockWord can be found at the end of the article.

Now let's look at some of the internal workings of BufFileSystem.

The Code

Each file opened with BufFileSystem has the structure BufFile associated with it. All information relevant to the file is stored in that structure. Here's the BufFile Structure in its entirety:

```
Response = (done, notdone, nomemory);   (* Blatantly
                      stolen from FileSystem ;^)        *)


BufFile = RECORD
            res    : Response;
            eof    : BOOLEAN;

             (* All of these variables are PRIVATE to
               BufFileSystem.                           *)
            Fi          : FileHandle;
            CurPlace,
     Buffer     : ADDRESS;

     Left,
     LastRead,
     SizeBuffer : CARDINAL;

     Pos        : LONGCARD;

     IsWrite,
     IsLast     : BOOLEAN
    END;
```

Res contains the status of the last disk operation. If res <> done, then the last operation failed. Eof, if set to true, indicates that the end of the file has been reached. Fi contains a pointer to an AmigaDOS file structure. Buffer is a pointer to the file's buffer. CurPlace is the next position on the buffer to read or write to. Left is the amount of space in the buffer that has not yet been used. SizeBuffer is the size of memory that Buffer points to. Pos is the number of bytes away from the beginning of the file. IsWrite indicates whether this is a write- or read-only file. IsLast, when set to TRUE, indicates that this is the last block (IsLast will only be set during reads).

Looks kind of intimidating? Well, the programmer using BufFile system only has to know about res and eof. The rest of the variables are private to BufFileSystem, and should only be modified by code within BufFileSystem. This is done so that if one decides to change BufFileSystem, he/she does not have to worry about the changes breaking every routine that happens to use it. The programmer will know that any new bugs will be local to the MODULE BufFileSystem.

Let's take a look at some of the code of BufFileSystem. Before one can use any of the routines for file manipulation, he/she must open up the file. Here is the routine from BufFileSystem that does it:

```
PROCEDURE open(     Name  : ADDRESS;
                    write : BOOLEAN;
                VAR file  : BufFilePtr) : BOOLEAN;
```

Name is a pointer to the name of the file that the user wishes to open. If write is set to TRUE, then this is a write-only file; otherwise it's a read-only file.

```
VAR
  dum : BOOLEAN;

BEGIN
  ALLOCATE(file, TSIZE(BufFile));
  IF file = NIL THEN
    RETURN FALSE
  END;
```

Here we're allocating memory for the BufFile structure. Like any good programmer,we check if there is enough memory before continuing.

```
  WITH file^ DO
    res         := done;   (* Initialize error condi-
tions *)
    IsLast      := FALSE;
    eof         := FALSE;
    Pos         := 0D;
    IsWrite     := write;
```

This piece of code initializes some of the BufFile structure variables.

```
    Fi := NIL;
     SetBuffer(file, write);
    IF res = done THEN
      IF write THEN        (* Open the file. *)
        Fi := Open(Name, ModeNewFile)
      ELSE
        Fi := Open(Name, ModeOldFile)
      END
    END;
```

SetBuffer() allocates the memory for the buffer. If SetBuffer() succeeds, then we open up the file using Open() from the MODULE AmigaDOS. Notice that if we are writing a file, then we delete the old one, if any, from disk. SetBuffer() is the piece of code that initializes the BufFile structure.

```
    IF Fi = NIL THEN      (* If error occurred, then free
                             memory.                    *)
      ClearBuffer(file, FALSE);
       DEALLOCATE(file, TSIZE(BufFile));
    END;
```

If Open() fails, we free the memory allocated by SetBuffer() with ClearBuffer().

```
    RETURN Fi <> NIL
  END
END open;
```

Here we just return the error condition back to the calling program.

This, in a nutshell, is what open() does:

1) Allocate memory for the BufFile structure.
2) Allocate memory for Buffer, and initialize the BufFile structure.
3) Open up the file.

Merely opening up a file isn't enough for any real work to get done. Let's take a look at how we would write data to a file once we've opened it:

```
PROCEDURE WriteBlock(file : BufFilePtr;
                     Ptr  : ADDRESS;
                     Size : CARDINAL);
```

File is the pointer you supplied to open(). Ptr is a pointer to the block of memory that you wish to write to the disk. Size is the size of the block of memory.

```
BEGIN
  WITH file^ DO
    IF Left = 0 THEN       (* Write what's in the buffer  *)
      IF res = done THEN
        IF Write(Fi, Buffer, SizeBuffer) = -1D THEN
          res        := notdone;
          RETURN
        END
      ELSE
        RETURN
      END;

      Left      := SizeBuffer;
      CurPlace := Buffer
    END;
```

In this block of code we check if the buffer is full. If it is, then we write it to the disk. Notice the error checking.

```
    IF Size <= Left THEN (* Block is smaller than free  *)
                         (* area in buffer              *)
      CopyMem(Ptr, CurPlace, Size);
       INC(LONGCARD(CurPlace), Size);
      INC(Pos, Size);
      DEC(Left, Size);
```

If the block of memory that we want to write is smaller than the free area in the buffer, then we just copy it to the buffer using CopyMem and increment pointers.

```
    ELSE                      (* Block is larger than free    *)
                              (* area in buffer.  Recursively *)
                              (* call WriteBlock until its    *)
                             (* written.                      *)
      CopyMem(Ptr, CurPlace, Left);
      DEC(Size, Left);
      INC(Pos, Left);
       INC(LONGCARD(Ptr), Left);
      Left := 0;
      WriteBlock(file, Ptr, Size)
    END
  END
END WriteBlock;
```

If the block of memory that we want to write to disk is bigger than the free area in the buffer, we copy to the buffer what we can. We then call WriteBlock recursively to write the rest of the block to disk.

The algorithm of WriteBlock() is:

1) If Buffer is full, write it to disk.
2) If block of memory is smaller than free area in buffer, copy it to the buffer.
3) Else, copy as much of the block of memory to the buffer as possible, then call WriteBlock recursively.

Improvements to BufFileSystem

BufFileSystem is useful as it is. However, a number of improvements could be made to it. For instance, it currently does not support simultaneous reading and writing to a file; files are read or write only. BufFileSystem doesn't support appending data to an already existing file; when writing to a file, it deletes any previously existing one of the same name.

The move algorithm could check whether or not the move takes it to a place within the buffer. This way, the program would not have to dump the buffer before doing the move; instead of more disk access, only pointer arithmetic need be done.

Another improvement could be in the handling of large blocks. The way BufFileSystem handles blocks that are larger than the buffer is to read/write them recursively to disk. Instead of making the recursive call, the program could check the size of the data, then read or write to it directly. If the size of the remaining data were, say, 50% of the size of the buffer (or greater) it would probably be a better idea to read or write to the disk directly. The program would then not have to do any memory copies (which can be slow), and it could read/write bigger chunks of data to the disk.

When Not to Buffer

There are situations when one would not want to buffer his file input and output. One such case is a disk-based database. The database skips over large pieces of data and reads in only small bits here and there. A buffered file system would waste a lot of time buffering information that it would never need. Any program that requires random access to a file would have similar problems with BufFileSystem.

A buffered file system should not be used if the data chunks that will be written to disk are of similar size to, or larger than, the buffer area. If you know that your code will only write blocks of memory that are, say, more than two or three kilobytes each, then you probably would not want to use a buffered file system because the write routines are going to waste a great deal of time copying stuff to the buffer when it would be more efficient to write to the disk directly. However, BufFileSystem will certainly be more efficient in this case than Benchmark's FileSystem.

Conclusion

I wrote BufFileSystem with the idea that it can replace FileSystem almost transparently for most programs. The programmer then could rewrite some sections of code to take advantage of the ReadBlock() and WriteBlock() commands. This will not only speed up reads and writes dramatically, but it can decrease the size of the program. The complete source to BufFileSystem begins below.

Please write to Michal Todorovic c/o Amazing Computing,
P.O. Box 869, Fall River, MA 02722-0869.

```
DEFINITION MODULE BufFileSystem;

(*$L+*)

FROM AmigaDOS IMPORT FileHandle;
FROM SYSTEM   IMPORT ADDRESS, LONGWORD, WORD, BYTE;

TYPE
  Response = (done, notdone, nomemory);

  BufFile = RECORD
              res   : Response;
              eof   : BOOLEAN;

              (* All of these variables are PRIVATE to
                 BufFileSystem.                                   *)
              Fi          : FileHandle;
              CurPlace,
              Buffer     : ADDRESS;

              LastRead,
              Left,
              SizeBuffer : CARDINAL;

              Pos          : LONGCARD;

              IsWrite,
              IsLast       : BOOLEAN
            END;

  BufFilePtr = POINTER TO BufFile;

VAR
  BufSize : CARDINAL;  (* The Default Size of the Buffer *)

PROCEDURE open(     Name  : ADDRESS;
                    write : BOOLEAN;
                VAR file  : BufFilePtr) : BOOLEAN;
```

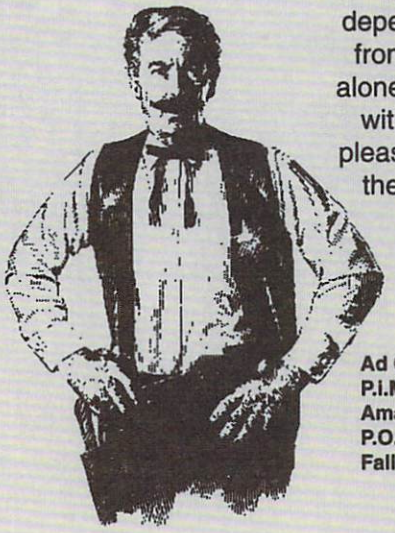
```
PROCEDURE close(VAR file : BufFilePtr; write : BOOLEAN);

PROCEDURE ReadBlock(file : BufFilePtr;
                    Ptr  : ADDRESS;
                    Size : CARDINAL);

PROCEDURE WriteBlock(file : BufFilePtr;
                     Ptr  : ADDRESS;
                     Size : CARDINAL);


(* Added for compatibility with FileSystem *)

PROCEDURE ReadChar(file : BufFilePtr; VAR C : BYTE);

PROCEDURE WriteChar(file : BufFilePtr; C : BYTE);

PROCEDURE ReadWord(file : BufFilePtr; VAR W : WORD);

PROCEDURE WriteWord(file : BufFilePtr; W : WORD);

PROCEDURE SetPos(file : BufFilePtr; pos : LONGCARD);

PROCEDURE GetPos(file : BufFilePtr; VAR pos : LONGCARD);

(* Extra procedures *)

PROCEDURE ReadLongWord(    file : BufFilePtr;
                       VAR W    : LONGWORD);

PROCEDURE WriteLongWord(file : BufFilePtr; W : LONGWORD);

END BufFileSystem.


IMPLEMENTATION MODULE BufFileSystem;

(*$L+*)

FROM Storage          IMPORT ALLOCATE, DEALLOCATE;
FROM Memory           IMPORT AllocMem, FreeMem, MemReqSet,
                             CopyMem, MemPublic,
                             AvailMem, MemChip, MemFast;
FROM AmigaDOS         IMPORT FileHandle, ModeReadWrite,
                             ModeOldFile, ModeNewFile,
                             OffsetCurrent, OffsetBeginning,
                             DateStampRecord,
                             DateStamp, Read, Write, Open,
                             Close, DeleteFile,
                             FileLock, InfoData, Lock,
                             UnLock, Info, FileInfoBlock,
                             Examine, FileInfoBlockPtr,
                             BSTR, BPTR, ParentDir,
                             Seek;
FROM SYSTEM           IMPORT WORD, LONGWORD, BYTE, TSIZE,
                             ADDRESS, ADR, SHIFT;


(*$D-*)


(* Creates, and initializes the buffer information.      *)

PROCEDURE SetBuffer(file : BufFilePtr; write : BOOLEAN);

BEGIN
  WITH file^ DO
    SizeBuffer := BufSize;         (* Size of buffer     *)
    ALLOCATE(Buffer, SizeBuffer);  (* Allocate buffer    *)
    IF Buffer = NIL THEN           (* IF no memory.      *)
      res := nomemory;
      RETURN
    END;

    IF write THEN
      Left   := SizeBuffer
    ELSE
      Left   := 0
    END;

    CurPlace := Buffer
  END
END SetBuffer;


(* Clears the buffer.                                    *)

PROCEDURE ClearBuffer(file : BufFilePtr; write : BOOLEAN);

BEGIN
  WITH file^ DO
    IF write THEN                (* If in write mode.    *)
      IF Left < SizeBuffer THEN  (* If stuff left then
                                    write it.            *)
        IF NOT(Write(Fi, Buffer,
                     SizeBuffer - Left) <> -1D) THEN
          res := notdone
        END
      END
    END;
```

```
    IF Buffer <> NIL THEN
      DEALLOCATE(Buffer, SizeBuffer); (* Deallocate the
                                         buffer.         *)
      Buffer := NIL
    END
  END
END ClearBuffer;


(* Opens up the file.                                    *)

PROCEDURE open(    Name  : ADDRESS;
                   write : BOOLEAN;
               VAR file  : BufFilePtr) : BOOLEAN;

VAR
  dum : BOOLEAN;

BEGIN
  ALLOCATE(file, TSIZE(BufFile));
  IF file = NIL THEN
    RETURN FALSE
  END;

  WITH file^ DO
    res         := done;  (* Initialize error conditions *)
    IsLast      := FALSE;
    eof         := FALSE;
    Pos         := 0D;
    IsWrite     := write;

    Fi := NIL;
    SetBuffer(file, write);
    IF res = done THEN
      IF write THEN         (* Open the file. *)
        Fi := Open(Name, ModeNewFile)
      ELSE
        Fi := Open(Name, ModeOldFile)
      END
    END;

    IF Fi = NIL THEN        (* If error occured, then free
                               memory.                   *)
      ClearBuffer(file, FALSE);
      DEALLOCATE(file, TSIZE(BufFile));
    END;

    RETURN Fi <> NIL
  END
END open;


(* Closes the file.                                      *)

PROCEDURE close(VAR file : BufFilePtr; write : BOOLEAN);

BEGIN
  IF file <> NIL THEN
    ClearBuffer(file, write);
    IF file^.Fi <> NIL THEN
      Close(file^.Fi);
    END;

    DEALLOCATE(file, TSIZE(BufFile));
  END
END close;


(* Reads a block from the buffer.  Assumes Ptr is        *)
(* already allocated.                                    *)

PROCEDURE ReadBlock(file : BufFilePtr;
                    Ptr  : ADDRESS;
                    Size : CARDINAL);

VAR
  dum : LONGINT;

BEGIN
  WITH file^ DO
    IF Left = 0 THEN        (* Finished reading the block.
                               Get another.              *)
      IF res = done THEN
        IF IsLast THEN
          eof := TRUE;      (* End of file.              *)
          RETURN
        END;

        dum := Read(Fi, Buffer, SizeBuffer);
        IF dum = -1D THEN (* Error occured.              *)
          res         := notdone;
          eof         := TRUE;
          IsLast      := TRUE;
          RETURN
        END;

        Left     := CARDINAL(dum); (* HowMuch read.      *)
        CurPlace := Buffer;
        IsLast := Left < SizeBuffer
        (* If we're on the last block, then dum, should
           be less than the buffer size.                *)
      ELSE
        RETURN
      END
    END;

    LastRead := Size;
    IF Size <= Left THEN    (* Block of memory is smaller *)
                            (* than the free area in the  *)
                            (* buffer.                    *)
      CopyMem(CurPlace, Ptr, Size);
      INC(LONGCARD(CurPlace), Size);
      INC(Pos, Size);
      DEC(Left, Size);
    ELSE                    (* Block of memory is bigger  *)
                            (* than free are in buffer.   *)
                            (* Recursively call ReadBlock *)
                            (* until it is all read.      *)
      CopyMem(CurPlace, Ptr, Left);
      DEC(Size, Left);
      INC(Pos, Left);
      INC(LONGCARD(Ptr), Left);
      LastRead := Left;
      Left := 0;
      ReadBlock(file, Ptr, Size)
    END;

    IF (Left = 0) AND IsLast THEN
      eof := TRUE
    END
  END
END ReadBlock;


(* Writes a block to the buffer.                            *)

PROCEDURE WriteBlock(file : BufFilePtr;
                     Ptr  : ADDRESS;
                     Size : CARDINAL);

BEGIN
  WITH file^ DO
    IF Left = 0 THEN      (* Write what's in the buffer  *)
      IF res = done THEN
        IF Write(Fi, Buffer, SizeBuffer) = -1D THEN
          res       := notdone;
          RETURN
        END
      ELSE
        RETURN
      END;

      Left     := SizeBuffer;
      CurPlace := Buffer
    END;

    IF Size <= Left THEN (* Block is smaller than free  *)
                         (* area in buffer              *)
      CopyMem(Ptr, CurPlace, Size);
      INC(LONGCARD(CurPlace), Size);
      INC(Pos, Size);
      DEC(Left, Size);
    ELSE                 (* Block is larger than free   *)
                         (* area in buffer.  Recursively *)
                         (* call WriteBlock untill its  *)
                         (* written.                    *)
      CopyMem(Ptr, CurPlace, Left);
      DEC(Size, Left);
      INC(Pos, Left);
      INC(LONGCARD(Ptr), Left);
      Left := 0;
      WriteBlock(file, Ptr, Size)
    END
  END
END WriteBlock;


(* Changes the current position in the file relative to  *)
(* the beginning of it.                                   *)

PROCEDURE SetPos(file : BufFilePtr; pos : LONGCARD);

VAR
  npos : LONGINT;

BEGIN
  WITH file^ DO
    IF IsWrite THEN  (* Clear the write buffer            *)
      IF Left < SizeBuffer THEN
        IF NOT(Write(Fi, Buffer,
                    SizeBuffer - Left) <> -1D) THEN
          res := notdone
        END
      END
    END;

    (* Change our position in the file                    *)
    npos := Seek(Fi, pos, OffsetBeginning);
```

```
    IF npos <> -1D THEN
      Pos := npos;
      res := done;
      eof := FALSE;
    ELSE
      res := notdone
    END;

    (* Make read and write block think buffer is empty  *)
    IF IsWrite THEN
      Left   := SizeBuffer
    ELSE
      IsLast := FALSE;
      Left   := 0
    END
  END
END SetPos;


(* Returns the current position in the file.            *)

PROCEDURE GetPos(file : BufFilePtr; VAR pos : LONGCARD);

BEGIN
  pos := file^.Pos;
END GetPos;


(* Deletes a file.                                      *)

PROCEDURE Delete(filename : ARRAY OF CHAR);

VAR
  dum : BOOLEAN;

BEGIN
  dum := DeleteFile(ADR(filename));
END Delete;


(* Reads a character from a file.                       *)
```

➔

ATTENTION READERS



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```
PROCEDURE ReadChar(file : BufFilePtr; VAR C : BYTE);

BEGIN
  WITH file^ DO
    IF Left > 0 THEN (* Cheat.  Don’t have to call read  *)
                     (* block.  Quicker this way.         *)
      C := CurPlace^;
      INC(LONGCARD(CurPlace));
      INC(Pos);
      DEC(Left)
    ELSE             (* Whoops.  Ran out of buffer. Call *)
                     (* ReadBlock.                        *)
      ReadBlock(file, ADR(C), 1)
    END
  END
END ReadChar;


(* Writes a character to a file.                          *)

PROCEDURE WriteChar(file : BufFilePtr; C : BYTE);

BEGIN
  WITH file^ DO
    IF Left > 0 THEN (* Cheat.  Don’t have to call write *)
                     (* block.  Quicker this way.         *)
      CurPlace^ := C;
      INC(LONGCARD(CurPlace));
      INC(Pos);
      DEC(Left)
    ELSE             (* Whoops.  Ran out of buffer. Call *)
                     (* WriteBlock.                       *)
      WriteBlock(file, ADR(C), 1)
    END
  END
END WriteChar;

(* Reads a word from a file.                              *)

PROCEDURE ReadWord(file : BufFilePtr; VAR W : WORD);
BEGIN
  ReadBlock(file, ADR(W), 2)
END ReadWord;


(* Writes a word to a file.                               *)

PROCEDURE WriteWord(file : BufFilePtr; W : WORD);
BEGIN
  WriteBlock(file, ADR(W), 2)
END WriteWord;


(* Reads a LongWord from a file.                          *)

PROCEDURE ReadLongWord(    file : BufFilePtr;
                       VAR W    : LONGWORD);
BEGIN
  ReadBlock(file, ADR(W), 4)
END ReadLongWord;


(* Writes a LongWord to a file.                           *)

PROCEDURE WriteLongWord(file : BufFilePtr; W : LONGWORD);
BEGIN
  WriteBlock(file, ADR(W), 4)
END WriteLongWord;


BEGIN
  BufSize := 8192
END BufFileSystem.


(*— The test file Word.mod —*)


(* Uses file system to write a string to disk 10,000       *)
(* times one character at a time.                          *)

MODULE Word;

FROM Strings    IMPORT CopyString;
FROM FileSystem IMPORT File, Lookup, Close, WriteChar,
                       Response;
FROM TermInOut  IMPORT WriteString;

VAR
  List       : ARRAY[0..20] OF CHAR;
  Fi         : File;
  Counter1,
  Counter    : CARDINAL;

BEGIN
  CopyString(List, “This is the Text\n”);

  WriteString(“\n\nStarting...”);
  Lookup(Fi, “RAM:Temp.txt”, TRUE);
```

```
  IF Fi.res = done THEN
    FOR Counter := 1 TO 10000 DO
      FOR Counter1 := 0 TO 16 DO
        WriteChar(Fi, List[Counter1])
      END
    END;

    Close(Fi);
    IF Fi.res = done THEN
      WriteString(“Done.\n\n”)
    ELSE
      WriteString(“Error during writing.\n\n”);
    END
  ELSE
    WriteString(“Error, couldn’t open the file.\n\n”);
  END;

END Word.

(*— The test file BufWord.mod —*)

(* Uses BufFileSystem to write a string to disk 10,000    *)
(* times one character at a time.                         *)

MODULE BufWord;

FROM Strings       IMPORT CopyString;
FROM BufFileSystem IMPORT BufFilePtr, open, close,
                          WriteChar, Response;
FROM TermInOut     IMPORT WriteString;
FROM SYSTEM        IMPORT ADR;

VAR
  List       : ARRAY[0..17] OF CHAR;
  Fi         : BufFilePtr;
  Counter1,
  Counter    : CARDINAL;
  res        : Response;

BEGIN
  CopyString(List, “This is the Text\n”);

  WriteString(“\n\nStarting...”);
  IF open(ADR(“RAM:Temp.txt”), TRUE, Fi) THEN

    FOR Counter := 1 TO 10000 DO
      FOR Counter1 := 0 TO 16 DO
        WriteChar(Fi, List[Counter1])
      END
    END;

    res := Fi^.res;
    close(Fi, TRUE);
    IF res = done THEN
      WriteString(“Done.\n\n”)
    ELSE
      WriteString(“Error during writing.\n\n”);
    END;
  ELSE
    WriteString(“Error, couldn’t open the file.\n\n”);
  END;

END BufWord.

(*— The test file BlockWord.mod —*)

(* Uses BufFileSystem to write a string to disk 10,000    *)
(* times 17 characters at a time.                         *)

MODULE BlockWord;

FROM Strings       IMPORT CopyString;
FROM BufFileSystem IMPORT BufFilePtr, open, close,
                          WriteChar, WriteBlock, Response;
FROM TermInOut     IMPORT WriteString;
FROM SYSTEM        IMPORT ADR;

VAR
  List       : ARRAY[0..17] OF CHAR;
  Fi         : BufFilePtr;
  Counter1,
  Counter    : CARDINAL;
  res        : Response;

BEGIN
  CopyString(List, “This is the Text\n”);

  WriteString(“\n\nStarting...”);
  IF open(ADR(“RAM:Temp.txt”), TRUE, Fi) THEN

    FOR Counter := 1 TO 10000 DO
      WriteBlock(Fi, ADR(List), 17);
    END;

    res := Fi^.res;
    close(Fi, TRUE);
    IF res = done THEN
      WriteString(“Done.\n\n”)
    ELSE
      WriteString(“Error during writing.\n\n”);
    END;
  ELSE
    WriteString(“Error, couldn’t open the file.\n\n”);
  END;

END BlockWord.
```

•AC•

The Fred Fish Collection

Due to the increasing size of the Fred Fish Collection, only the latest disks are represented here. For a complete list of all AC, AMICUS, and Fred Fish Disks, cataloged and cross-referenced for your convenience, please consult the current *AC's Guide To The Commodore Amiga* available at your local Amazing Dealer.

Fred Fish Disk 436

AztecArp	An Arp interface package fixed to work with Aztec 'C' version 5.0. This is version 1.9, an update to the version on disk 376, and includes a number of bug fixes and a couple of new features (such as vsprintf/vfprintf/ vprintf-like Arp routines and fixes for Kickstart 2.0). Includes source in 'C' and assembly language. Author: Olaf 'Olsen' Barthel
BatchRequester	A simple program which opens an Arp filerequester and writes the result to an environment variable. Very useful if used in batchfiles. Version 1.1, source code in Oberon. Author: Christoph Teuber
Berserker	Detects and eliminates viruses. Knows all 'popular' viruses and their kin, including the new 'Centurion' and 'Traveling Jack' link viruses. Comes with a resident handler which continually checks memory to prevent virus infection and a utility to fix programs corrupted by the 'Centurion' and 'Traveling Jack' viruses. Version 5.02, an update to the version on disk 355. Contains partial source in assembly. Author: Ralf Thanner
Input	How to read keyboard input simply and quickly. Includes C source, a sample program, technical discussion, and programming modules that you can "plug in" to your own C programs. Includes source. Author: Timm Martin.
KeyMacro	A keyboard macro program, configurable via a text file, that also supports hotkey program execution. You can map up to eight functions to each key, including keys such as cursor keys, the return key, etc. Version 1.8, an update to version 1.6 on disk 398. Includes source. Author: Olaf 'Olsen' Barthel
LhLib	A shared reentrant Amiga runtime library featuring highly optimized assembly language versions of the LhArc data compression / decompression routines. Compresses faster and more efficiently than any other currently available implementation of the Lzhuf algorithm. Two example appli- cations for data compression/decompression, an interface to the Amiga Oberon Compiler, and documentation how to use the library in your own programs are included. This is version 1.8, binary only. Authors: Holger P. Krekel and Olaf 'Olsen' Barthel
MemGuard	A program similar to MemWatch, which continually checks the low memory vector table for random trashing. Has been optimized and greatly enhanced to support the 68010, 68020, 68030, etc. microprocessors. Unlike MemWatch, MemGuard does not run as task in a dummy loop but rather as a low level interrupt routine which is capable of trapping memory trashing even before exec might know of it, and even while task switching is forbidden. Version IV, an update to version IIIa on disk 354, binary only. Author: Ralf Thanner
MMB	With MMB, users of 3 button mice under WB 2.0 can use the middle mouse button as a shift key to do multiple selects. Binary only. Author: Garry Glendown
MT420d	Printer driver for the Mannesmann Tally MT420d. Update to the old version on disk 164. Includes a few bug-fixes. Author: Sascha Wildner
Zoom	A fast and efficient floppy disk archiving utility based on the data compression / decompression algorithms used by lh.library. Has an Intuition and a Shell interface, fully supports Kickstart 2.0, is able to add texts and notes to archived output files, knows 66 different bootblock viruses, includes a number of compression parameters (such as encryption of the output file) and a lot more. Version 3.10, binary only. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 437

CLIwindow	CLIwindow allows you to manipulate the dimensions of a CLI window. It can be moved, enlarged, or shrunk. This is version 1.00. Includes source in assembly. Author: Roger Fischlin
Flip	Very small program which replaces the left-Amiga-N and M commands with screen and window flipping commands. It's an excellent example of how to use PC-relative addressing within input handlers. Version 2.0, includes a technical discussion and source in C and assembly. Author: Mike Monaco and Timm Martin.
FMouse	A mouse pointer accelerator, similar to Matt Dillon's DMouse. Includes a screen blanker and "hot keys". This is version 1.01. Includes source in assembly. Author: Roger Fischlin
PatchCompiler	A program to generate patches using a Pascal like language to describe what needs to be patched. This is version 1.0. Includes source in assembly. Author: Roger Fischlin
WaitAnyKey	A CLI command which will wait until the user presses any key. Useful for batch files, to pause until any key is struck. Version 1.00, includes source in assembly. Author: Roger Fischlin

Fred Fish Disk 438

GadgetED	A program for creating and editing intuition gadgets. Includes a palette editor, generation of either C or assembly source, and binary saving for later loading and editing. Version 2.0, includes source. Author: Jan van den Baard
MenuC	A menu and gadget compiler. Takes a simple ascii file describing menues and gadgets and creates the appropriate IntuiText structures needed to actually create working menues and gadgets, in either C or assembly source. This is version 0.8, binary only. Author: Bruce Mackey
ToolLib	A shared library containing 45 useful functions for all kinds of programs. There are functions for ports, sorting, gadgets, memory, string, directory and file handling, etc. Version 7.6, includes source. Author: Jan van den Baard

Fred Fish Disk 439

AIBB	Amiga Intuition Based Benchmarks is a program designed to test various aspects of CPU performance using a full intuition interface. Tests include "WritePixel", Sieve, Sort, Savage, Dhrystone, and Matrix. V2.0, binary only. ByLaMonte Koop
Curses	A link library containing many of the terminal independant standard "curses" functions. Designed primarily for those interested in porting UNIX screen based programs to the Amiga. V1.22, an update to FF391. Includes source and examples. By Simon John Raybould
DeluxeChanger	Converts binary files to assembler, basic, or C source code data initialization statements. It is useful to add graphics or sound samples to programs as initialized data. Version 1.0, includes source in assembler. Author: Andreas Ropke
HDClick	A program selector, typically installed in the startup sequence as the first command. Has user defined gadgets, a configuration file, an iconify function, and works with both NTSC and PAL systems. V1.21, binary only. Author: Claude Mueller
M2Utils	Various source modules for Benchmark Modula-2. Includes ColorReq, an interface to the Dissidents color.library; IFFLib, an interface to Christian Webers iff.library; and ARP, an interface to ARP V1.3. Author: Sascha Wildner

Fred Fish Disk 440

3DPlot	A 3D function plotting program that does hidden line, solid, or contour plots of equations of the form Z=F(X,Y). You can scale the plot, set plot limits, change rotation, etc. Can save and load the plots themselves, as well as the data. Version 2.0, includes source. Author: Randy Finch
DMake	Matt's version of the UNIX make utility. Features multiple dependancies, wildcard support, and more. V1.0, an update to FF246, but now includes source. Author: Matt Dillon
MegaD	Yet another disk utility program for the Amiga. This one allows an unlimited number of directories to be accessed simultaneously. V1.01, shareware, binary only. By John L. Jones

Fred Fish Disk 441

Deksid	A disk and file hexadecimal editor. Useful for editing binary files. Version 1.10, shareware, binary only. Author: Christian Warren, Marc Dionne
DiskPrint	Prints labels for 3.5" disks, primarily for PD library disks. Label data files can be loaded into memory so labels for special disks are available without having to type anything in or without having to wait for AmigaDOS to read in the full directory. This is version 2.3.5b, an update to version 2.3.5 on disk 433, and fixes a minor problem with some printers. Shareware, binary only. Author: Jan Geissler
Dme	Version 1.42 of Matt's text editor. Dme is a simple WYSIWYG editor designed for programmers. It is not a WYSIWYG word processor in the traditional sense. Features include arbitrary key mapping, fast scrolling, title-line statistics multiple windows, and ability to iconify windows. Update to FF284, includes source. Author: Matt Dillon

Fred Fish Disk 442

ToolManager	With ToolManager you can add your own programs to the tools menu of the 2.0 Workbench. Requires Workbench 2.0. Version 1.2, includes source. Author: Stefan B.
UUCP	An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. V1.08D, an update to FFdisk 360, and consists of three parts. Parts 1 and 2 are on this disk, and part 3 is onFF443. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 443

DICE	Dillon's Integrated C Enviroment. A C frontend, pre- processor, C compiler, assembler, linker, and support libraries. Features include ANSI compatibility, many code optimizations, and autoinit routines (user routines called during startup before main is called). V2.06.14, an update to FF359. Shareware, binary only. Author: Matthew Dillon
UUCP	An implementation of uucp for the Amiga, including mail and news. This is Matt's version for the Amiga, based on William Loftus's Amiga UUCP 0.40 release with news code from his 0.60 release, and months of work by Matt to make fixes and add enhancements. This is version 1.08D, an update to version 1.06D on disk 360, and consists of three parts. Parts 1 and 2 are on disk 442, and part 3 is on this disk. Includes source. Author: Various, major enhancements by Matt Dillon

Fred Fish Disk 444

ChinaChallenge	A game similar to Shanghai or Mahjong. The goal is to remove all parts of the pile, the so called Dragon, step by step. This dragon is composed of 120 different game pieces. You can always find four pieces displaying the same picture or chinese symbols. This is version II, an update to the version on disk 312. Changes include some bug fixes, unlimited undo, saving and loading of games, background music, title screen, etc. Binary only. Author: Dirk Hoffmann
EliteBBS	An online message and file handling system. Features include a message base, private mail, file library, support for xmodem, ymodem, and zmodem, fully buffered serial I/O routines for top speed, time limits, and more. V.31, binary only. By Nick Smith
MissileCmd	A fast Missile Command game written in assembly. Features include using a hires interlaced screen, time based events for correct operation on any speed Amiga, multitasking friendly, and sound effects. Binary only. Author: Max Bithead
RegExpLib	Shared library that implements regular expression pattern matching. Version 1.0, binary only. Author: Stephen Moehle
UltraF-4	Demo version of a super graphic based floppy format program that can format four floppy disks at the same time and even format disks that other programs give up on. Binary only. Author: Terry Bullard and Signa Bullard

Fred Fish Disk 445

MWTape	A tape handler which uses scsi.device to implement serial access to typical streaming tape devices. Includes source. Author: Markus Wandel
OptMouse	A program which allows you to use a Mouse Systems M3 serial mouse on the Amiga and instructions which allow a serial mouse to be modified to plug directly into the Amiga mouse port. Useful as an example of how to "fake" mouse movements and may be of use in writing drivers for digitizers, light pens, and the like. Includes source. Author: Ed Hanway
Tar	A port of a UNIX tar clone that can work with the TAPE: handler (also on this disk) to read and write UNIX tar compatible tapes. Includes source. By John Gilmore, FSF, Jonathan Hue, et. al.
TurboText	An almost fully operational demonstration copy of a new sophisticated text editor for the Amiga. Features many unique capabilities including an impressive ARexx interface with over 140 commands available, full outlining abilities, clipboard support, complete reconfigurability, recorded macros, programmer's calculator, emulations of many popular text editors, and much more. This demo version does not allow saving or printing of documents and limits the size of cut and paste operations. Version 1.0, binary only. Author: Martin Taillefer
UUCP	A bug fix for ULCP 1.08 released on disks 442 and 443, which had already been finalized at the time this fix reached me so could not be included there. Fixes a serious bug in uucico. Author: Matt Dillon

Fred Fish Disk 446

CanonBJ	A printer driver for the Canon BJ series of printers. Faster and supports more graphic and text modes than the standard Commodore driver. Shareware, binary only. Author: Wolf Faust
GamePort	A toolkit with link time and shared libraries that allow easy access to the GamePort device. Includes examples and test programs. Version 1.1, binary only. Author: Paris Bingham
Input	A toolkit with link time and shared libraries that allow easy access to the Input device. Includes examples and test programs. Version 1.1, binary only. Author: Paris Bingham
PointerLib	A disk based shared library which provides programmers with easy access to custom pointers and a consistent user selected busy pointer. Includes source. Author: Luke Wood
Post	An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 and type 3 fonts, screen output, file output, and printer output. Requires Arp library V39+ and ConMan V1.3+. This is version 1.4, an update to version 1.3 on disk 408. Includes source in C. Author: Adrian Aylward

Fred Fish Disk 447

AmiBack	Demo version of a new backup utility. Features include backup to any AmigaDOS compatible device (such as floppies, removable hard disks, fixed media hard disk, and tape drives), no copy protection, configuration files, complete backups, incremental backups, selective backups, file exclusion filter, setting of archive bit, etc. Demo version does not have restore, compare, or scheduler. Version 1.0, binary only, requires AmigaDOS 2.0. Author: MoonLighter Software
BackPac	Demo version of a new backup program. Features include intuition interface, data compression, 907K written per floppy, full and incremental backups, full or selected restores, inclusion/exclusion patterns, user defined config files, multitasking friendly. Version 1.3, binary only. Author: Canadian Prototype Replicas
DFC	Disk Format and Copy program. A nice, general purpose, disk formatter and copier. This is version 5, an update to the version on disk 131. Includes source. Author: Tom Rokicki and Sebastiano Vigna
FlashBack	Demo version of a new backup utility. Fully functional version except for the restore operation. Features include backup of multiple partitions in one pass, backup of non- AmigaDOS partitions, backup to a file, automated unattended backups, pattern matching, and streaming tape support. Version 2.05, binary only. Author: Leon Frenkel, Advanced Storage Systems
SMan	A Mandelbrot generation program. Uses the mouse to select regions within borders of the Mandelbrot set to zoom up to magnifications of 10**19. Includes math coprocessor support and options to save images as an IFF file. Shows example of assembly programming of extended precision for the 68881. Includes source. Author: David McKinstry
TCL	Port of Tool Command Language, a simple textual language intended primarily for issuing commands to interactive programs such as text editors, debuggers, illustrators, shells, etc. It has a simple syntax and is programmable so TCL users can write command procedures to provide more powerful commands than those in the built in set. Alpha 2 version, binary only. Author: Dr. John Ousterhout, Amiga port by Hackercorp

Fred Fish Disk 448

AmigaPet	Another cute screen hack. Version 2.52b, binary only, source available from author. Author: Patrick Evans
FifoDev	FIFO: is like PIPE: but is based on fifo.library rather than its own implementation. Fifo.library is a general fifo library implementation that supports named fifos, writing to a fifo from a hardware exception, multiple readers on a fifo with each getting the same data stream, efficient reading, and automatic or manual flow control. Programs that require non-blocking IO can access one side of a FIFO: connection via the fifo.library instead of the FIFO: device. Version 2, an update to version on disk 432. Includes some source. Author: Matt Dillon
Mkid	A program identifier database package that provides a logical extension to "ctags". The ID facility stores the locations for all uses of identifers, preprocessor names, and numbers (in decimal, octal, or hex). Includes source. Author: Greg McGary, Amiga port by Randell Jesup
NightMare	A handy little program that uses "shock" techniques to scare people. Fun to watch while someone else is using your computer. Version 1.0, binary only, source available from author. Author: Patrick Evans
OnTime	Holds up a task until a given time and then releases it to run. Version 1.0a, binary only, source available from author. Author: Patrick Evans
PicToANSI	Converts a one bit plane 320x200 IFF picture to a file that displays the picture on any ANSI compatible terminal. Binary only, source available from author. Author: Patrick Evans
SolitaireX	A solitaire game. Features include all possible moves shown with a pulsing green box around the card, reshuffle, unlimited undo, and tournament mode. Binary only. Author: Stephen Orr, Gregory M. Stelmack
ST2Amiga	A program to convert Atari ST format relocatable executables to Amiga format relocatable executables, for subsequent loading into the ReSource disassembler and conversion to Amiga. ST2Amiga should also compile and run on an ST. Version 1.1, includes C source. Author: David Campbell
Swish	A small simple screen hack that pushes the screen around using the view port, and simulates a floating motion. Binary only, source available from author. Author: Patrick Evans

Fred Fish Disk 449

Globulus	Demo version of a new arcade game that is reminiscent of the old Q-bert game. You control a cute little character and hop him around pathways in a diagonal kind of world, while trying to avoid bad things and catch good things. Binary only. Author: Innerprise
Handshake	A full featured VT52/VT100/VT102/VT220 terminal emulator. The author has taken great pains to support the full VT102 spec. Supports ANSI colors, screen capture, XPR external protocols, user selectable fonts, ARexx, and more. This is version 2.20c, an update to version 2.12a on disk number 172. Binary only, shareware. Author: Eric Haberfellner
Iff2Ansi	Turns any two-color low-res IFF picture into ANSI text that can be displayed on any ANSI compatible terminal. This is version 0.1, includes source in assembly. Author: Carnivore/ BeerMacht
Shazam	A picture viewer for Dynamic HiRes images created with Macro Paint, the 4096 color high resolution paint program from Lake Forest Logic. Version 1.1, includes two sample Dynamic HiRes images and source for display program. Author: Lake Forest Logic
WonderSound	Wondersound is an additive harmonic instrument design tool with a separate envelope design window and 16 relative harmonic strength and phase angle controls. Version 1.7, an update to version 1.6 on disk 428. Binary only. Author: Jeffrey Harrington

Fred Fish Disk 450

AmyVsWalker	Another cute animation from Eric Schwartz. This one has Amy the Squirrel attempting to take a wrench to the a "Walker" from "The Empire Strikes Back". Author: Eric Schwartz
MinRexx	A simple ARexx interface which can be easily patched into almost any program. Includes as an example the freedraw program from disk number 1. This is version 0.4, an update to the version on disk 188. Includes source. Author: Tomas Rokicki
Tabu	Quarter inch cartridge (QIC) tape backup utility. Works with Microbotics HardFrame. May work with other controllers as well (untested). Includes source. Author: Roy C. Sigsbey
UUCP	A bug fix for UUCP 1.08 released on disks 442 and 443, which had already been finalized at the time this fix reached me so could not be included there. Includes a new getty and some bug fixes. Author: Matt Dillon

Fred Fish Disk 451

'Liner	A shareware outliner whose function is to create outlines for notes or export to other programs. 'Liner can save an outline as ASCII text and is clipboard compatible. This version utilizes a number of AmigaOS 2.0 features and thus requires 2.0. Support for the new ECS Denise display modes is also included. V2.11, an upgrade to FF394. Includes source in C. By Dave Schreiber
Convert	Converts 39 different image formats into CBM standard 24 bit IFF files for display on devices such as Black Belt Systems HAM-E product. Version 1.6, binary only. Author: Pete Patterson and Ben Williams
ProDrivers	AmigaDOS 1.3 printer drivers for the IBM 4201 and 4202 series of printers. Version 1.0, binary only. By David White
RCS	The Revision Control System (RCS) manages multiple revisions of text files. RCS automates the storing, retrieval, logging, identification, and merging of revisions. RCS is useful for text that is revised frequently, for example programs, documentation, graphics, papers, form letters, etc. This is an update to RCS version 1.2 on disks 281 and 282, and includes only the files that have changed. Author: Walter Tichy. Amiga port by Raymond Brand and Rick Schaeffer.
RRamDisk	Another recoverable ram disk. This one supports up to 32 units and can be autobooted. Unused sectors are deleted from memory. The ram disk can be formatted, copied to, or used just like a normal disk drive. Binary only. By Bob Dayley
SnoopDos	A utility for monitoring AmigaDOS calls. In particular, it allows you to see what libraries, devices, fonts, environment variables or startup files a program is looking for. Very useful when you're trying to instal a new application. V1.2, an update to FF388. Includes source in C. By Eddy Carroll

Fred Fish Disk 452

Budget	A program to help with managing personal finances. V1.302, an update to FF416. Binary only. By Le Lay Serge Camille
FLODemo	Floorplan Construction Set demo. Fully functional except the Save IFF function is disabled and 15 pages of clip rooms have been replaced by a single sample page. This is version 1.48, binary only. ByJim Hennessey, Gramma Software
ImageLab	A program which performs image processing on IFF pictures. Includes standard image processing functions such as convolution, averaging, smoothing, enhancement, histograms, FFT's, etc. Also includes file conversion functions, a clipboard, and other useful functions. Version 2.4, an update to version 2.2 on disk 243, includes bug fixes, PAL support, overscanned and super-bitmap image support, improved paint operation, better area selection, HAM histograms, and FFTs. Binary only. Author: Gary Milliorn
MandelPAUG	A version of MandFXP with complete online help, a fully implemented Mandelbrot and Julia set "movie mode", and many improvements in the user interface. Version 2.1, binary only, source available. Author: Bruce Dawson, Steve Larocque, Jerry Hedden

Fred Fish Disk 453

AmigaTration	A "Concentration" like game for the Amiga, where you must locate matching tiles on a grid that can range from 4x4 (easy) to 12x12 (difficult). Version 1.0, binary only. By Gabe Dalbec
Lemmings	Demo version of an enchanting new game from Psygnosis. The lemmings are cute little guys you have to guide across the screen from one level to the next, over and under and around various obstacles, by using your mouse and changing each lemming's characteristics to get them to perform various useful tasks such as building bridges or digging through obstacles. Binary only. Author: Dave Jones, Gary Timmons, Scott Johnston, and Brian Johnston

ProjMot	A Projectile Motion plotter. Plots the path of a projectile fired with a variable initial velocity and angle. Display can be scaled, and time can be accelerated. The program returns the distance traveled and the time it took. This is version 1.01, includes source. Author: Chris Hopps
Quick	A utility program specifically targeted at hard drive users to eliminate the frustration of launching programs on the Amiga. It eliminates the need to open Workbench windows and/or remember and type in long pathnames to executables. Version 1.0, binary only. Author: Greg Gorby

Fred Fish Disk 454

Decigel	A software fix for programs that use instructions which are priviledged on the 68010/020/030. Update to the version on disk 18. Includes source in assembly. Author: Byrce Nesbitt
Enforcer	Enforcer uses the MMU to build a shroud of protection over anything that is not legal memory. Any empty holes in the address space are marked as illegal. Reads of the system ROMs are allowed, but not writes. With the exception of longword reads of location 4, the lowest 1K of memory is completely protected. When an illegal access is detected, the power LED will flash and a detailed message will be sent out the serial port. Binary only. Author: Bryce Nesbitt
Redaktu	A PostScript program which runs on PixelScript to edit other PostScript programs. Several examples and a detailed explanation are included. Author: John Starling
StillStore	A program designed for freelance, corporate, and broadcast television. It loads and displays IFF images of any resolution interchangeably from a list file or as inputted directly (I.E. random access). The user may easily skip forward or backward one or more pictures in the list. A "generic" display is always just a few seconds away. The program can be used "on air" with no concern that a pull down menu will suddenly appear in the viewable area. It also provides for a precise cue for changing windows or screens. While the main purpose is to load "news windows" of 1/4 screen size, StillStore can also handle full-sized and overscanned images. Also includes slide show modes and a screen positioning feature. Stillstore is written in the Director language from the Right Answers Group. This is version 1.2.1, an update to version 1.2 on disk 317. Binary only, source available from authors. Author: R.J. (Dick) Bourne and Richard Murray
Vortex	A universal accented character converter for Amiga, IBM-PC, Macintosh, and C64 files written in most west european languages (Danish, Finnish, French, German, Italian, Islandic, Norwegian, Spanish, Swedish, and more. Works with either ASCII or Word Perfect files. Version 1.5, includes source. Author: Michel Laliberte

Fred Fish Disk 455

AngusCopy	A disk copy program with intuition user interface. Version 2.0, shareware, includes source in Modula II. Author: Andreas Gunser
ConvMacF	Converts Macintosh type 1 Adobe fonts to a format usable on the Amiga. Reads a compressed Macintosh format Adobe font file and unpacks it to an ASCII text file, which permits sending the font to a printer as a PostScript program. Includes source. Author: Unknown, Amiga port by Joe Pearce
MemMon	A small memory monitor. Version II, shareware, includes source in Modula II. Author: Andreas Gunser
Vlt	VLT is both a VT100 emulator and a Tektronix (4014 plus subset of 4105) emulator, currently in use at SLAC (Stanford Linear Accelerator Center). Although the VT100 part was originally based on Dave Wecker et al.'s VT100, many enhancements were made. Features include use of ARP, an ARexx port, XMODEM 1K/CRC and Kermit protocols, support for additional serial ports, external file transfer protocols (XPR), a "chat" mode, and scrollback/review/history buffer. It comes in two versions, one with Tektronix emulation, and one without. The Tektronix emulation allows saving IFF files, PostScript files, and printing bitmaps to the printer. This is version 5.034, an update to version 4.846 on disk 410. Binary only. Author: Willy Langeveld

Fred Fish Disk 456

CheatSheet	A compilation of cheats, hints, backdoors, helpful bugs, passwords, codes, solves, and walkthroughs for over 150 Amiga games. February 1st, 1991 edition, an update to January 1st edition on disk 431. Author: Mark Shnayer
CManual	Parts 1 and 2 of a complete C manual for the Amiga which describes how to open and work with Screens, Windows, Graphics, Gadgets, Requesters, Alerts, Menus, IDCMP, Sprites, VSprites, AmigaDOS, Low Level Graphics Routines, Hints and Tips, etc. The manual also explains how to use your C Compiler and gives you important information about how the Amiga works and how your programs should be designed. The manual consists of 15 chapters together with more than 100 fully executable examples with source code. When unpacked, the manual and examples nearly fill up four standard Amiga floppies. This is version 2.0, an update to version 1.0 on disk 337. Because of its size, it is distributed on two library disks, parts 1 and 2 on disk 456 and parts 3 and 4 on disk 457. Author: Anders Bjerin

Fred Fish Disk 457

CManual	Parts 3 and 4 of a complete C manual for the Amiga which describes how to open and work with Screens, Windows, Graphics, Gadgets, Requesters, Alerts, Menus, IDCMP, Sprites, VSprites, AmigaDOS, Low Level Graphics Routines, Hints and Tips, etc. The manual also explains how to use your C Compiler and gives you important information about how the Amiga works and how your programs should be designed. The manual consists of 15 chapters together with more than 100 fully executable examples with source code. When unpacked, the manual and examples nearly fill up four standard Amiga floppies. This is version 2.0, an update to version 1.0 on disk 337. Because of its size, it is distributed on two library disks, parts 1 and 2 on disk 456 and parts 3 and 4 on disk 457. Author: Anders Bjerin
Line	A shell written to enhance the bare-bones CLI with features that many people find useful in the UNIX csh, including history, aliases, a directory stack, etc. Version 1.15, includes source. Author: John D. Aycock
QuickReq	An "Ask utility" to replace the "ask" command from AmigaDOS. QuickReq can load arguments from files thus making it possible to handle long questions and texts. Also supports optional line breaks in BodyText, an option to center text to window, DisplayBeep when requester is activated, setting your own FrontPen number, specifying requesters width and height and all kinds of overscan displays. First public release. Version 2.0, includes source. Author: Markus Aalto

Fred Fish Disk 458

ATCopy	A program to copy files from the Amiga side of a system equipped with a PC/AT bridgeboard, to the PC side, using wildcards. Copies directly through the shared memory. Supports CLI and WorkBench usage. This is version 2.2, an update to version 2.1 on disk 429. New features include much faster copying and selection of all options using WorkBench. Shareware, binary only. Author: Peter Vorwerk
Csh	Version 4.02a of a csh like shell derived from Matt Dillon's shell, version 2.07. This is an update to version 4.01a on disk 331. Changes include bug fixes, preservation of file protection bits by cp, some new commands, and reformatted documentation. Includes source. Author: Matt Dillon, Steve Drew, Carlo Borreo, Cesare Dieni
GIFMachine	A program that will convert CompuServe GIF image files into IFF SHAM and 24bit ILBMs. It offers a number of extra options like dithering, horizontal and vertical flip, as well as automatic border removal. Requires KickStart version 2.0 or greater to run. This is version 2.116, an update to version 2.104 on disk 405. Includes source. Author: Christopher Wichura
TeXify	A package of ARexx scripts, for CygnusEd users, which allows total control of AmigaTex from within CED. This is version 1.10e, binary only. Author: Wolf Faust

Fred Fish Disk 459

AmiDock	An Amiga version of the NeXT's "dock", but more versatile and not as limited. Provides you with a number of buttons on the WorkBench screen that, when pressed, will launch other programs. These buttons are fully configurable to run any program you want. Version 1.2.4, binary only. Author: Gary Knight
Conquest	Lore of Conquest is a war game similar in concept to the board game Risk. You are the lord of an entire world, destined to rule the galaxy. Some worlds are virgin fruits, ready for you to colonize. Some worlds have natives who do not wish to accept your rule, these you must conquer for they will yield more valuable resources. As you claim the galaxy you will find, you are not the only one extending your dominion. This is a two-player game, so be prepared to defend yourself and take what is yours! Version 1.3, an update to version 1.2 on disk 432. Binary only, shareware. Author: Michael Bryant
Rxgen	An ARexx library that allows you to call any function of almost any Amiga library from an ARexx program. This is version 1.0, binary only. Author: Francois Rouaix
XprZmodem	An Amiga shared library which provides ZModem file transfer capability to any XPR-compatible communications program. This is version 2.10, an update to version 2.0 on disk 261. Includes source. Author: Rick Huebner
Zoom	A fast and efficient floppy disk archiving utility based on the data compression / decompression algorithms used by lh.library. Has an Intuition and a Shell interface, fully supports Kickstart 2.0, is able to add texts and notes to archived output files, knows 66 different bootblock viruses, includes a number of compression parameters (such as encryption of the output file) and a lot more. Version 4.1, an update to version 3.10 on disk 436. Binary only. Author: Olaf 'Olsen' Barthel

Fred Fish Disk 460

JMenu	This program allows an AmigaDOS script to display a menu, wait for the user to make a selection either with the mouse or the keyboard, and return the selection back to the script through an environment variable. It can also immediately execute any valid AmigaDOS command based upon the menu selection. The maximum size of the menu is based on the screen resolution and font size, up to a maximum of 26 selections of a maximum of 80 characters each and an optional title area of up to 4 lines. Version 1.1, binary only. Author: James Collins
NetHack	A screen oriented fantasy game where your goal is to grab as much treasure as you can, retrieve the Amulet of Yendor, and escape the Mazes of Menace alive. On the screen is a map of where you have been and what you have seen on the current dungeon level. As you explore more of the level, it appears on the screen in front of you. Nethack generates a new dungeon every time it is played, thus even veteran players will continue to find it entertaining and exciting. This is version 3.0, patch level 10, an update to version 2.3 on disks 189 and 190. Binary only, source available. Author: Various, see documentation.
ShadowMaker	Demo version of an Intuition based Font shadow generator. In seconds you can convert your favorite fonts into color fonts with professional video shadows built right in. The only restriction for this demo is that the final font height at SAVE times must be less than 40 pixels in height. Version 1.5, an update to version on disk 428. Binary only. Author: Stephen Lebans

Fred Fish Disk 461

DFrags	Disk Fragmentation reporting utility. Displays disk fragmentation for both floppy and hard disk devices. Does not attempt to change any data, just gives a report. Version 2.02, shareware, binary only. Author: Custom Services
DiskPrint	Prints labels for 3.5" disks, primarily for PD library disks. Label data files can be loaded into memory so labels for most PD disks are available after a few mouse- clicks. Features include three different label sizes, default file, different label library functions, Amiga- LibDisk contents read-in and easy handling. This is version 2.7.2, an update to version 2.3.5b on disk 441. Shareware, binary only. Author: Jan Geissler
Logic	A small game that is somewhat reminiscent of "life". Version 2.0, includes source in assembly. Author: Thomas Jansen
MandAnim	A Mandelbrot Animation program that allows you to easily generate series of lo-res/16-color pictures. Features full mouse and/or keyboard operation, zooms, auto-save, high (+cheat) speed, iconization, preview, ease, etc. The generated pictures all remember their positions and settings so they can be reloaded. This is version 1.2, an update to version 1.1 on disk 387. Binary only. Author: Ekke Verheul.
NewList	A powerful LIST replacement. Supports many features including sorts, character filters, case sensativity, most options offered by LIST, date construction, UNIX wildcards, and much more. Sort routines are VERY fast and memory usage is minimal. Version 4.5, binary only. Author: Phil Dietz
SBall	A game using the joystick to control a "bouncing ball". Binary only. Author: Hertzig Wolfgang and Meisner Christian
TDraw	An easy to use Window Title Bar Pattern Editor for use with TBar. Load, save, test, and edit patterns. Saves script files that can be executed later to change window patterns at anytime (like on boot-up). Includes TRand, a utility to pick a random TBar file so your WorkBench will look different each time you reboot. Version 1.0, binary only. Author: Phil Dietz
Tron	Another game based on the lightcycle race sequence in the science fiction computer film "Tron". This is version 1.0, unrelated to other Tron releases in the library. Includes source in assembly. Author: Thomas Jansen

Fred Fish Disk 462

CacheDisk	Improves floppy disk throughput by caching entire tracks of data. Buffers disk reads and writes for maximum speed gain and has a user setable number of buffers for each drive. Version 1.0, binary only. Author: Terry Fisher
DisTerm	The dissidents telecommunication program. Has built in phone directory requester, autodial, various file transfer protocols, ascii send and capture, full/half duplex, split window, color requester, macro keys, selectable baud, CR/LF expansion, automatically configured per phone entry. Binary only. Author: Jeff Glatt
Humartia	An arcade game where each player controls a jet and must destroy the opponents jet, which is accomplished when a jet has been hit 75 by either missiles or air mines. Binary only. Author: Jason Bauer
SeaLance	Game based on a Trident submarine simulator. You must use the weapons at your disposal to liberate the earth's cities from alien occupation. Binary only. Author: Jason Bauer
Up&Down	The object of this game is to get four of your chips in a row (across, down, or diagonally) without letting your opponent get his chips in a row first. Binary only. Author: Jason Bauer

Fred Fish Disk 463

ExecRexx	A program that turns an ARexx script into an executable which can be run from WorkBench or the CLI. Binary only. Author: Jeff Glatt
FileIO	A file requester library based upon an example by R.J. Mical. Has numerous features, including uses other than disk I/O. Version 1.C, update to version 1.9 on disk 393. Binary only. Author: Jeff Glatt, Jim Fiore, R.J. Mical
ILBM	The ilbm reader/writer library 0.5 and examples. Also can be used for non-ILBM files. 100% compatible with original Electronic Arts code. Binary only. Author: Jeff Glatt
LibTool	A utility that can quickly convert C or assembly code into an Amiga shared library. Also makes all support files including C and assembly include files, bmap files, Manx and Lattice pragmas, C glue stubs. Can also make a device. Binary only. Author: Jeff Glatt
PrintSpool	A shared library to easily add text or graphics print spooling to any C or assembly program. Binary only. Author: Jeff Glatt
RexxIntuition	An ARexx function library which allows ARexx scripts to open windows/screens, add menus, add proportional, boolean, and string gadgets, use requesters, load/save ILBM pictures, use a color requester, print text in various colors, sizes, and styles, draw colored lines and boxes, print text or graphics, etc. Binary only. Author: Jeff Glatt
RexxLib	A shared library that can be used to easily add an ARexx implementation to any program in a memory efficient manner. Binary only. Author: Jeff Glatt

Fred Fish Disk 464

Cross	A program that creates crossword puzzles. Has a message data file to allow easy translation into almost any human language, with English and German currently supported. This is version 3.3, includes source in M2Amiga Modula-2. Author: Jurgen Weinelt
FileWindow	A completely public domain file requester which may be used in any program, even commercial ones. It uses dynamically allocated memory to hold the file names so the only limitation is the amount of memory available. Includes a filter option to limit display of filenames to only ones with a specific extension. Names are automatically sorted while they are being read and displayed. This version has been enhanced by Bernd Schied for more device gadgets, renaming of files and directories, ANSI-C source, and more. Update to version 1.10 on disk 336. Includes source. Author: Anders Bjerin, Bernd Schied
PictureEditor	An "object-oriented" paint program that allows you to create, modify, load, and save hierarchical structured picture objects. Version 1.12, shareware, binary only. Author: Hans W. Stremlau
Scan	CLI utility to display the individual character contents of any file. Displays the ASCII and Hex values, count and percentage of total along with actual character (if displayable). Listing is displayed on a console window or optionally written to an output file. Possible uses would be to scan files for binary characters, relative character counts, matching numbers of special characters, determining LF/CR configurations, etc. Version 1.0, includes source. Author: Dan Fish, console routine by Jim Cooper

Fred Fish Disk 465

FCS	Prerelease version of an iterated Fractal Construction Set program, used to generate iterated fractal images such as Sierpinski's triangle, ferns, etc. This is version 0.99, binary only. Author: Garth Thornton
Lz	An lharc compatible archiver that is reported to be much faster than other available archivers and produce smaller archives. Version 1.01, shareware, binary only. Author: Jonathan Forbes
MRBackUp	A hard disk backup utility that does a file by file copy to standard AmigaDOS floppy disks. Includes an intuition interface and file compression. Version 5.02a, an update to version 3.4 on disk 327. Shareware, binary only. Author: Mark Rinfret
TextPlus	A word processor for the Amiga, with both German and English versions. TextPlus enables you to write letters, books, programs etc. in a very easy and comfortable way. This is version 2.2E, the same as on disk 375. However, this release includes the source (the description on disk 375 claims the source is included but it was not). Author: Martin Steppler

Fred Fish Disk 466

DICE	Dillon's Integrated C Enviroment. A C frontend, pre- processor, C compiler, assembler, linker, and support libraries. Features include ANSI compatibility, many code optimizations, and autoinit routines (user routines called during startup before main is called). This is version 2.06.15 (2.06B), an update to version 2.06.14 on disk 443. Shareware, binary only. Author: Matthew Dillon
HamLabDemo	Demo version of an expandable image format conversion utility. Converts GIF, TIFF, PBMPLUS, Spectrum 512, MTV, QRT, and Sun images into HAM and SHAM. Images can be scaled, dithered, color corrected, and cropped. This demo version is limited to processing images of 512 by 512 pixels or less. Version 1.1, shareware, binary only. Author: J. Edward Hanway
Mosaic	Mosaic is a game played with a set of 81 two-by-two tiles on a 24-by-24 playing area. The objective of the game is to place your tiles such that squares of the same pattern are connected as much as possible. Version 1.0, includes source. Author: Kirk Johnson and Loren J. Rittle
StopWatch	A stop watch application with the precision of one millisecond (variable), which scans the joystick button. Full multitasking capability and intuition interfacing, ARexx port for parameter and result handling, and supports all non-proportional WorkBench fonts. Written in Modula 2 and assembly language. Version 2.0, binary only. Author: Christian Danner

Fred Fish Disk 467

Multiplot	An intuitive data plotting program featuring flexible input options, arbitrary text addition, automatic scaling, zoom and slide with clipping at boundaries, a range of output file formats and publication quality printed output. Workbench printers are supported via transparent use of the PLT: device. This is version XLNd, an update to version XLNc on disk 373. Includes bug fixes, many new features, postscript and HP LaserJet III support, logarithmic axes. Author: Alan Baxter, Tim Mooney, Rich Champeaux, Jim Miller
PowerSnap	A utility that allows you to use the mouse to mark characters anywhere on the screen, and then paste them somewhere else, such as in another CLI or in a string gadget. Checks what font is used in the window you snap from and will look for the position of the characters automatically. Recognizes all non proportional fonts of up to 24 pixels wide and of any height. Works with AmigaDOS 2.0 in both shell and WorkBench environments. Version 1.0, binary only. Author: Nico Francois

Fred Fish Disk 468

Post	An excellent PostScript interpreter for the Amiga which implements the full Adobe language. Supports type 1 and type 3 fonts, screen output, file output, and printer output. Requires Arp library V39+ and ConMan V1.3+. This is version 1.5, an update to version 1.4 on disk 446. Changes include better type 1 font rendering and some bug fixes. Includes source in C. Author: Adrian Aylward
Vlt	Vlt version 5.045, a partial update to version 5.034 on disk 455. Includes new executables with and without Tektronix emulation, and a new xprascii library. You still need the files from disk 455 to make a complete distribution. Binary only. Author: Willy Langeveld

Fred Fish Disk 469

AirAce	A fast paced WWI biplane shoot'em up game built using Accolade's Shoot'Em Up Construction Kit. Binary only. Author: Robert Grace
FastLife	A fast life program featuring an intuition interface, four screen sizes, 19 generations/second, and 153 patterns in text file format. Version 1.0, binary only. Author: Ron Charlton
Triangle	A game like chinese checkers, consisting of fourteen pegs and one empty hole in a triangular formation. The object of the game is to leave one peg in the original empty hole or have eight pegs on the board and no possible moves. Version 1.1, includes source in BASIC. Author: Russell Mason
WordPuzzle	The object of this game is to find a word in a puzzle arrangement. There are three different variations of the game. Version 1.1, includes source in BASIC. Author: Russell Mason

Fred Fish Disk 470

BCF	FORTRAN-77 compiler, linker, and runtime support library. No Amiga specific hooks, just vanilla FORTRAN. ANSI compatible with extensions. Version 1.3c, binary only. Author: Andre Kostli
KeyMenu	An alternative to Intuition's method of menu selection via the keyboard. Uses one key to activate the menu for the currently active window, the cursor keys to move through the menu as you choose, and the return key to select the desired menu item or escape key to abort selection. Works with AmigaDOS 2.0 mouse accelerator and has option to blank Intuition's pointer. Version 1.03, includes assembly source. Author: Ken Lowther
TripleYachtZ	An implementation and variation of the game "Yacht". Plays both Single (the standard game) and Triple, which differs from normal Yacht-Z in that all scores in the 3rd column of your scorecard are worth three times as much as the normal value and those in the 2nd are worth double. Version 1.2, binary only, source available from author. Author: Stephan Iannce

To Be Continued......

In Conclusion

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NEWTEK'S NEW VIDEO TOASTER

NEWTEK HAS ALMOST overnight become one of Commodore's largest Value Added Resellers. In an announcement prepared for the National Association of Broadcasters, NewTek introduced a stand-alone Video Toaster system for $3995.

NewTek Vice President Paul Montgomery was quoted as saying, "Our original plug-in card version of the Toaster required that the user be familiar with computers. This new Video Toaster system is the flagship product we've been working towards. It makes the complete Toaster system price less expensive and opens up many new channels of distribution."

NewTek's Director of Marketing, Mark Randall, announced that over 25 software and hardware developers are announcing products for the new Video Toaster platform. "We are excited by the flood of high-quality developers that are working on innovative products for the Video Toaster," said Mr. Randall. "The Video Toaster is now clearly the standard for desktop video production."

No, this is not the single plug-in card we have all come to know. This is an Amiga 2000 with the Toaster installed and the colorful Video Toaster logo affixed on the front. NewTek has found a way to silence the often-asked question, "Why did you do it on the Amiga?" by supplying a Toaster system directly to their customer without the Amiga logo.

NewTek's effort in marketing their "television studio on a card" has gained them tremendous coverage from both the television media as well as notable computer and consumer publications around the US. They have worked almost as diligently on gaining press for their innovative Amiga product as they did in creating it.

The new NewTek Toaster system includes a standard Amiga 2000 with 5 megabytes of RAM. Although it was not mentioned in the announcement supplied from NewTek, the system's requirements information states that two composite video monitors are needed.

NewTek's press release closed by saying: "The Video Toaster is the world's first desktop television studio. It allows virtually anyone to produce videos that have the effects and graphics quality of network television. The Video Toaster's unprecedented price of $3995 is made possible by new technology invented at NewTek and incorporated into special custom chips that perform real-time video manipulation. Over four years in development, the Video Toaster is a complete system including easy-to-use software for video switching, digital video effects, character generation, color processing, 3-D animation, and paint graphics."

NewTek, 215 E. 8th St., Topeka, KS 66603, (913) 354-1146, Inquiry #231.

THE VOTE'S IN

THE AMIGA DEVELOPERS Association has announced the names of this year's elected board members.

Through a process of mailed nominations and ballots, the following board members have been elected: Chairperson, Al Hospers of Dr. T's Music Software; Vice Chairperson, Melissa Grey of Blue Ribbon SoundWorks; Second Vice Chairperson, Perry Kivolowitz of ASDG; Treasurer, Jerry Wolosenko of Psygnosis; Secretary, Debbie Miller of New Horizons Software.

New ADA Second Vice Chairperson Perry Kivolowitz stated that the main focus of the new board members would be to concentrate on a strategy to develop more public awareness for the Amiga. They intend to do this by continually contacting agents of the press with stories and advancements on the Amiga. What do you say we just give each of them a copy of *Amazing Computing*?

VIDEO IN THE KITCHEN SYNC

THINK YOU HAVE ALL you'll ever need for video? What about throwing in the Kitchen Sync? New from Digital Creations and Progressive Image Technology, the Kitchen Sync completes your desktop video center as the perfect companion for the Video Toaster.

Synchronize not one but two independent video sources for use with virtually any switcher or digital video effects system that requires synchronous video inputs.

The Kitchen Sync provides two complete infinite window time base correctors on one IBM AT/Amiga-compatible card. It is easily installed into any IBM AT-compatible or Amiga 2000 or 3000 PC slot. The Kitchen Sync works with any video source including VCR's and camcorders, is S-VHS and Hi-8-compatible, and provides 100% broadcast-quality output.

Other built-in features include Hue, Saturation, Contrast, and Brightness adjustments, complete digital design—no pot adjustment necessary. The Kitchen Sync is completely microprocessor-controlled and easy to adjust.

The built-in sync generator regenerates all sync and blanking signals, and provides guaranteed 100% accurate S/CH phase relationships. Advanced output is useful with any VCR capable of taking an Advanced Sync in. Kitchen Sync has optional S-VHS/Hi-8 outputs and compatible inputs, and allows you to use either composite or S-Video into either channel. An optional genlock is required to synchronize the Kitchen Sync to any external video source (the genlock is not necessary in any of the normal stand-alone modes).

Now you can synchronize not one but two independent video sources for use with virtually any switcher or digital video effects system that requires synchronous video inputs. Everything needed, all on one card. Will the Kitchen Sync drain you dry? At $1895 for two TBC units, no one is going to get soaked.

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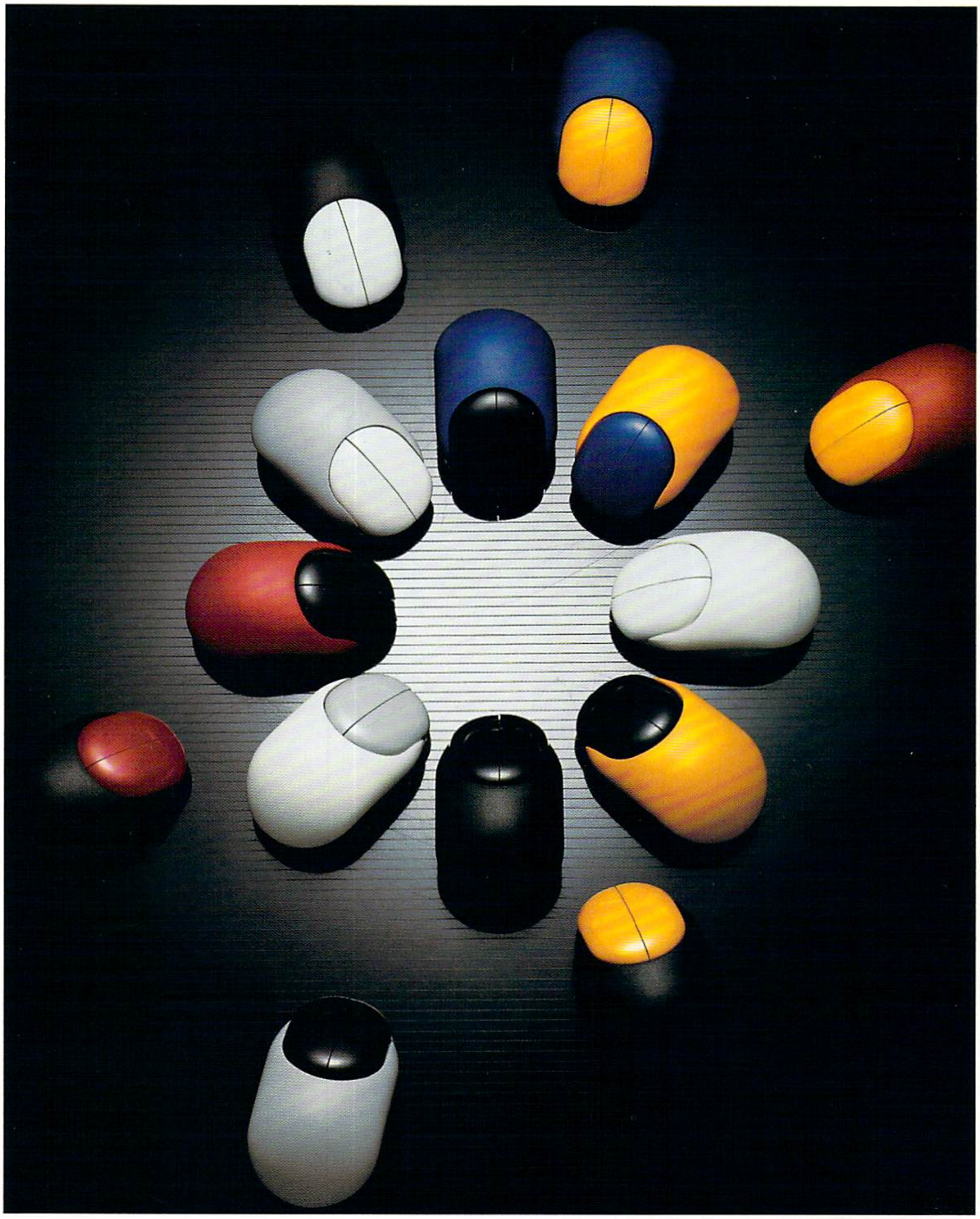

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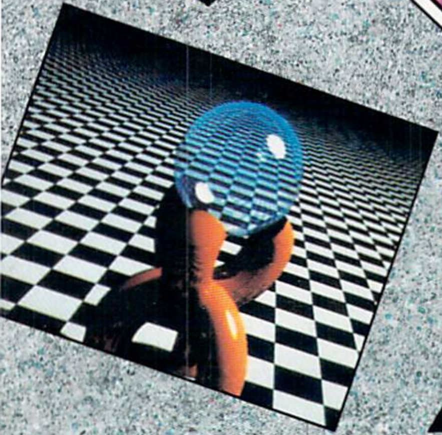
Circle 113 on Reader Service card.

All photographs are of actual DCTV screens.

The Future Is Here



- ▲ Paint, digitize and display full color NTSC video graphics on any Amiga.®*
- ▲ Capture a video frame in 10 seconds from any color video camera. (Also works with still video cameras, video disk and still frame capable VCR's.)
- ▲ Display and capture full color 24 bit high resolution images.
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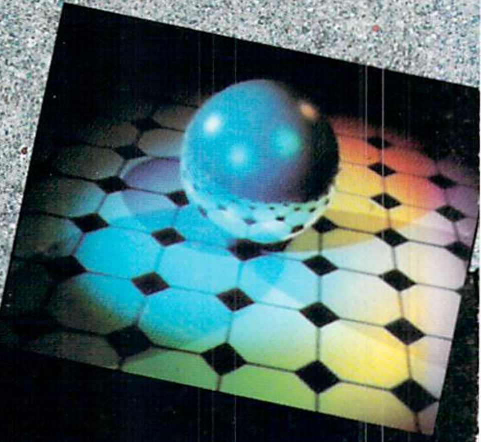

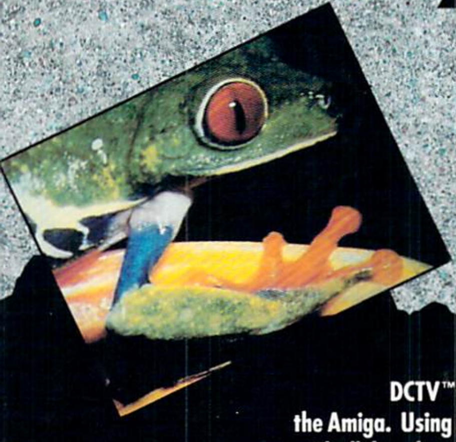

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Circle 163 on Reader Service card.